AUG 1 1980

JUNE 1980 NUMBER 430 -- Part I

Astronomy
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No430, pt 1

P.A STACKS

Solar-Geophysical Data prompt reports

Data for May 1980 -- April 1980

Explanation of Data Reports Issued as Number 426 (Supplement) February 1980

Late Data	Pages 163-175
Errata Jan 79 Kn, Km, Apr 79 Km	Pages 170-171
Printer's Error--data reissued on	Pages 172-175

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Solar - Geophysical Data

NO. 430 JUNE 1980

Part I (Prompt Reports)

DATA FOR
MAY 1980
APRIL 1980

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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To standardize referencing these reports in the open literature, the following format is recommended:
Solar-Geophysical Data, 426 Part I (or Part II), pages, February 1980, U.S. Department of Commerce (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 430

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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A.13ab	Solar Wind (Pioneers 8 & 9)	---	---	---	---	---	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32	
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C.4e	Solar Radio Spectral Obs. (Weissenau)	418A137	419A142	420A139	422B 86	422A149	423A143	424A130	425A125	426A117	427A126	428A116	429A120	430A128	
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F.1e	Cosmic Ray Neutron Counts (Alert)	418A151	420B 78	420A155	421A158	422A165	423A161	425B 32	427A159	427A159	428A146	429A153	429A137	430A154	
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F.1h	Cosmic Ray Neutron Counts (Thule)	419B 62	419A153	420A155	421A158	422A165	423A161	424A146	425A143	426A132	427A147	428A134	429A137	430A154	
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Notes:

"418A 48" listed under 1979 Apr means that the sunspot drawings for April 1979 were contained in *Solar-Geophysical Data* Number 418 - Part I, beginning on page 48.

A = Part I, B = Part II.

----- = no data available.
Blank = data not yet received.

SGD 430 Part I (Prompt)

MAY 1980 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

MAY 1980

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

01 MAY 1980 PRESTO BOULDER 01/1708Z TENFLARE 280 FLUX UNITS 01/1621Z DURATION GREATER THAN 40 MINUTES.
BOULDER 01/1918Z SOFLARE X2/1B S20E58 01/1910Z DURATION 10 MINUTES. TENFLARE 800 FLUX UNITS 01/1913Z DURATION 15 MINUTES. UMBRAL COVERAGE WAS 20 PERCENT. TYPE II AND IV RADIO BURSTS WERE OBSERVED WITH X2 EVENT.
07 MAY 1980 PRESTO BOULDER 07/1435Z SOFLARE M4/1B 07/1320Z DURATION 30 MINUTES. TENFLARE 07/1320Z 280 FLUX UNITS DURATION 8 MINUTES.
08 MAY 1980 PRESTO TOYOKAWA 08/0122Z TENFLARE 190 UNITS AT 08/0056Z DURATION 8 MINUTES 15 PERCENT WEST.
PRESTO BERNE 08/1230Z TENFLARE 270 FLUX UNITS 07/1317Z.
09 MAY 1980 PRESTO BOULDER 09/1328Z SOFLARE M7/1B 09/0711Z S21W32 DURATION 37 MINUTES. TENFLARE 09/0712Z 210 FLUX UNITS DURATION 6 MINUTES.
12 MAY 1980 PRESTO TOYOKAWA 12/0108Z TENFLARE 120 FLUX UNITS 11/2342Z DURATION 8 MINUTES.
PRESTO KAKIOKA 12/0123Z MAGSTORM 11/0126Z.
PRESTO BOULDER 12/0336Z TENFLARE 190 FLUX UNITS 12/0255Z DURATION 9 MINUTES.
PRESTO TOYOKAWA 12/0455Z TENFLARE 190 UNITS 12/0245Z DURATION 5 MINUTES.
21 MAY 1980 PRESTO BOULDER SOFLARE X1/2B S14W15 21/2048Z DURATION 29 MINUTES. TENFLARE 1100 FLUX UNITS 21/2049Z DURATION 24 MINUTES.
22 MAY 1980 PRESTO TOYOKAWA 22/0020Z TENFLARE 620 FLUX UNITS 21/2054Z DURATION 12 MINUTES.
28 MAY 1980 PRESTO BOULDER 28/1747Z TENFLARE 323 FLUX UNITS 28/1655Z DURATION 35 MINUTES.
PRESTO BOULDER 28/2006Z SOFLARE X1/2B S18W33 28/1946Z 14 MINUTES DURATION. TENFLARE 28/2006Z 1200 FLUX UNITS 28/1943Z 14 MINUTES DURATION.
29 MAY 1980 PRESTO BOULDER 29/0030Z SOFLARE M6/2B S17W39 28/2332Z 18 MINUTES DURATION.
30 MAY 1980 PRESTO TOYOKAWA 30/0135Z TENFLARE 190 FLUX UNITS 29/0503Z 37 MINUTES DURATION.

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	Flares: No. of Total	Flares: M	Flares: X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
122	01	30	231	198	010	S31W88	3	0	0		01	S31W88	E	SOLQUIET
						S14W87	3	1	0			S14W87	Q	MAGQUIET
						S23W52	0	0	0			S23W52	Q	
						S07W47	1	1	0			S07W47	Q	
						N29W20	0	0	0			N29W20	Q	
						N12W09	0	0	0			N12W09	Q	
						S13E03	0	0	0			S13E03	Q	
						S17E03	0	0	0			S17E03	E	
						N11E11	0	0	0			N11E11	Q	
						N07E23	0	0	0			N07E23	Q	
						N12E42	1	0	0			N12E42	Q	
						S16E42	0	0	0			S16E42	Q	
						S20E66	0	0	0			S20E66	E	
						N22E75	0	0	0			N22E75	Q	
123	02	01	154	206	009	S32W95	1	0	0	PRESTO BOULDER 01/1708Z TENFLARE 280 FLUX UNITS DURATION GREATER THAN 40 MINUTES. BOULDER 01/1918Z SOFLARE X2/1B S20E58 01/1910Z DURATION 10 MINUTES. TENFLARE 800 FLUX UNITS 01/1913Z DURATION 15 MINUTES. TYPE II AND IV RADIO BURST WITH X2 FLARE. 20 PERCENT UMBRAL COVERAGE.	02	S32W95	Q	SOLALERT 02/XX
						S23W64	4	1	0			S23W64	E	MAGQUIET
						S07W61	0	0	0			S07W61	Q	
						S17W09	2	0	0			S17W09	E	
						N06E09	0	0	0			N06E09	Q	
						N11E29	0	0	0			N11E29	Q	
						S20E54	3	1	1			S20E54	A	
						N24E64	1	1	0			N24E64	A	
124	03	02	226	222	005	N26W87	2	0	0		03	N26W87	Q	SOLALERT 03/04
						S24W77	5	0	0			S24W77	E	MAGQUIET
						S35W29	0	0	0			S35W29	Q	
						S17W23	12	0	0			S17W23	A	
						N07W03	0	0	0			N07W03	Q	
						N12E16	0	0	0			N12E16	Q	
						S16E18	0	0	0			S16E18	Q	
						S19E42	9	0	0			S19E42	A	
						N23E52	3	0	0			N23E52	A	
125	04	03	236	204	004	S23W88	0	0	0		04	S23W88	Q	SOLALERT 04/05
						S36W39	0	0	0			S36W39	Q	MAGALERT 04/05
						S17W36	2	1	0			S17W36	A	
						S30W01	0	0	0			S30W01	Q	
						N10E02	1	0	0			N10E02	E	
						S15E03	0	0	0			S15E03	Q	
						N18E06	0	0	0			N18E06	Q	
						S19E27	3	1	0			S19E27	A	
						N24E38	0	0	0			N24E38	E	
						N29E56	0	0	0			N29E56	Q	
126	05	04	235	222	005	S20E74	0	0	0		05	S20E74	Q	SOLALERT 06/08
						S19W73	0	0	0			S19W73	Q	MAGNIL
						N08W63	0	0	0			N08W63	Q	
						S18W50	3	0	0			S18W50	E	
						S32W13	0	0	0			S32W13	E	
						N10W10	0	0	0			N10W10	Q	
						S17W10	0	0	0			S17W10	Q	
						N17W08	0	0	0			N17W08	Q	
						S20E15	2	0	0			S20E15	E	
						N23E23	0	0	0			N23E23	E	
						N28E45	0	0	0			N28E45	Q	
						S20E64	0	0	0			S20E64	Q	
127	06	05	230	218	005	N07W76	0	0	0		06	N07W76	Q	SOLNIL
						S18W65	6	0	0			S18W65	E	MAGQUIET
						S13W33	0	0	0			S13W33	Q	
						S32W27	0	0	0			S32W27	Q	
						N10W23	1	0	0			N10W23	Q	
						N16W21	0	0	0			N16W21	Q	
						N10W02	0	0	0			N10W02	Q	
						S20E02	6	0	0			S20E02	A	
						N22E13	0	0	0			N22E13	Q	
						N06E17	0	0	0			N06E17	Q	
						N26E33	0	0	0			N26E33	Q	
						S21E51	0	0	0			S21E51	Q	
						S32E75	0	0	0			S32E75	Q	

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128	07	06	230	200	010	S18W76	2	0	0		07	S18W76	E	SOLQUIET
						S13W47	0	0	0			S13W47	Q	MAGQUIET
						S32W39	0	0	0			S32W39	Q	
						N10W36	0	0	0			N10W36	Q	
						N16W35	0	0	0			N16W35	Q	
						N11W14	0	0	0			N11W14	Q	
						N22W12	0	0	0			N22W12	Q	
						S21W09	6	0	0			S21W09	E	
						S30W01	0	0	0			S30W01	Q	
						N23E01	1	0	0			N23E01	Q	
						N26E19	0	0	0			N26E19	Q	
						S22E37	0	0	0			S22E37	Q	
						S33E65	0	0	0			S33E65	Q	
129	08	07	213	201	008	S18W86	0	0	0	PRESTO BOULDER	08	S18W86	E	SOLQUIET
						S13W63	0	0	0	07/1435Z SOFLARE		S13W63	Q	MAGQUIET
						S32W53	0	0	0	18/M4 07/1320Z DU-		S32W53	Q	
						N10W50	0	0	0	RATION 30 MINUTES.		N10W50	Q	
						S20W24	7	1	0	TENFLARE 07/1320Z		S20W24	A	
						N24W12	4	0	0	280 FLUX UNITS DU-		N24W12	E	
						S13W11	0	0	0	RATION 8 MINUTES.		S13W11	Q	
						N19E04	0	0	0			N19E04	Q	
						N28E09	0	0	0			N28E09	Q	
						S20E24	0	0	0			S20E24	Q	
						N07E37	0	0	0			N07E37	Q	
						S32E53	0	0	0			S32E53	Q	
						S22E63	0	0	0			S22E63	Q	
						S16E71	0	0	0			S16E71	Q	
130	09	08	238	202	008	S12W78	1	0	0	PRESTO TOYOKAWA	09	S12W78	Q	SOLQUIET
						S31W68	0	0	0	08/0122Z TENFLARE		S31W68	Q	MAGQUIET
						N11W65	0	0	0	190 UNITS AT		N11W65	Q	
						S20W37	6	4	0	08/0056Z DURATION 8		S20W37	A	
						S06W35	0	0	0	MINUTES 15 PERCENT		S06W35	Q	
						S16W27	0	0	0	WEST.		S16W27	Q	
						N25W26	0	0	0			N25W26	E	
						N12W08	1	0	0			N12W08	E	
						N28W03	0	0	0			N28W03	Q	
						S21E12	0	0	0			S21E12	Q	
						S09E29	0	0	0			S09E29	Q	
						S32E40	0	0	0			S32E40	Q	
						S23E47	0	0	0			S23E47	Q	
						S16E60	2	0	0			S16E60	E	
131	10	09	199	219	014	N11W76	2	1	0	PRESTO BOULDER	10	N11W76	Q	SOLQUIET
						S20W45	0	0	0	09/1328Z SOFLARE		S20W45	A	MAGQUIET
						N25W37	0	0	0	M7/1B 09/0711Z		N25W37	E	
						S12W23	0	0	0	S21W32 DURATION 37		S12W23	Q	
						N12W21	1	0	0	MINUTES. TENFLARE		N12W21	Q	
						S21W02	0	0	0	210 FLUX UNITS DU-		S21W02	Q	
						S07E05	0	0	0	RATION 6 MINUTES.		S07E05	Q	
						S08E18	0	0	0	TOYOKAWA 09/0755Z		S08E18	Q	
						S31E27	2	1	0	TENFLARE 250 UNITS		S31E27	Q	
						S17E47	2	0	0	09/0711Z DURATION 9		S17E47	E	
						S22E67	1	0	0	MINUTES.		S22E67	Q	
132	11	10	147	187	008	S20W61	1	0	0		11	S20W61	E	SOLQUIET
						S16W57	0	0	0			S16W57	Q	MAGQUIET
						S15W53	0	0	0			S15W53	Q	
						N12W35	0	0	0			N12W35	Q	
						S20W14	0	0	0			S20W14	Q	
						S07W09	0	0	0			S07W09	Q	
						S31E18	0	0	0			S31E18	Q	
						S16E32	11	1	0			S16E32	A	
						S20E53	0	0	0			S20E53	Q	
133	12	11	175	189	010	S20W73	5	2	0		12	S20W73	A	SOLALERT 12/15
						S16W66	0	0	0			S16W66	Q	MAGALERT 12/13
						N12W51	0	0	0			N12W51	Q	
						S12W42	0	0	0			S12W42	Q	
						S21W26	0	0	0			S21W26	Q	
						S31E08	0	0	0			S31E08	Q	
						S16E20	12	0	0			S16E20	A	
						S20E41	0	0	0			S20E41	Q	
						S22E55	0	0	0			S22E55	Q	
134	13	12	198	186	018	S20W95	5	0	0	PRESTO TOYOKAWA	13	S20W95	Q	SOLNIL
						N12W65	0	0	0	12/0108Z TENFLARE		N12W65	Q	MAGNIL
						N21W56	0	0	0	120 FLUX UNITS		N21W56	Q	
						S10W56	0	0	0	11/2342Z DURATION		S10W56	Q	
						S13W56	0	0	0	8 MINUTES. KAKIOKA		S13W56	Q	
						S21W41	0	0	0	12/0123Z MAGSTORM		S21W41	Q	
						S12W23	0	0	0	11/0126Z. BOULDER		S12W23	Q	
						S32W11	0	0	0	12/0335Z RADIO		S32W11	Q	
						N41E04	0	0	0	BURST 245 MHZ 3200		N41E04	Q	
						S16E07	7	0	0	FLUX UNITS. TEN-		S16E07	A	
						S20E27	1	0	0	FLARE 190 FLUX		S20E27	E	
						S22E42	0	0	0	UNITS 12/0254Z DU-		S22E42	Q	
						S07E61	0	0	0	RATION 9 MINUTES.		S07E61	Q	

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						Location	No. of Flares				Date	Location	Desc*	
						Lat-Long	Total	M	X			Lat-Long		
135	14	13	191	189	008	N12W78	0	0	0		14	N12W78	Q	SOLQUIET
						N19W72	0	0	0			N19W72	Q	MAGQUIET
						S12W69	0	0	0			S12W69	Q	
						S31W27	0	0	0			S31W27	Q	
						N40W10	0	0	0			N40W10	Q	
						S16W08	0	0	0			S16W08	E	
						S21E14	0	0	0			S21E14	Q	
						S22E30	0	0	0			S22E30	Q	
						S08E49	2	0	0			S08E49	Q	
136	15	14	181	199	012	S12W82	0	0	0		15	S12W82	Q	SOLQUIET
						S16W22	2	1	0			S16W22	A	MAGQUIET
						N39W20	0	0	0			N39W20	Q	
						S26W05	0	0	0			S26W05	Q	
						S21E01	0	0	0			S21E01	Q	
						S22E16	0	0	0			S22E16	Q	
						S08E36	4	0	0			S08E36	Q	
						N16E60	0	0	0			N16E60	Q	
						S13E73	1	1	0			S13E73	A	
137	16	15	211	199	008	S26W36	0	0	0		16	S26W36	Q	SOLQUIET
						S17W35	2	0	0			S17W35	A	MAGQUIET
						N38W34	0	0	0			N38W34	E	
						S27W18	0	0	0			S27W18	Q	
						S22W14	1	0	0			S22W14	Q	
						S22E01	0	0	0			S22E01	Q	
						S08E23	1	0	0			S08E23	Q	
						N16E45	1	0	0			N16E45	Q	
						S12E59	3	1	0			S12E59	A	
						N11E75	0	0	0			N11E75	Q	
						S29E76	1	0	0			S29E76	Q	
138	17	16	222	202	004	S16W50	2	0	0		17	S16W50	E	SOLQUIET
						N38W41	0	0	0			N38W41	Q	MAGQUIET
						S26W30	0	0	0			S26W30	Q	
						S21W27	0	0	0			S21W27	Q	
						S22W12	1	0	0			S22W12	E	
						S08E10	2	0	0			S08E10	E	
						N25E18	0	0	0			N25E18	Q	
						N15E32	7	0	0			N15E32	E	
						S13E48	6	1	0			S13E48	E	
						N09E62	0	0	0			N09E62	Q	
						S30E65	0	0	0			S30E65	Q	
139	18	17	233	205	001	S21W72	0	0	0		18	S21W72	Q	SOLQUIET
						S16W64	3	0	0			S16W64	E	MAGQUIET
						N38W52	0	0	0			N38W52	Q	
						S20W44	0	0	0			S20W44	Q	
						S23W25	0	0	0			S23W25	Q	
						S08W03	0	0	0			S08W03	E	
						N25E05	0	0	0			N25E05	Q	
						N15E18	6	2	0			N15E18	A	
						S13E34	3	0	0			S13E34	E	
						N08E48	0	0	0			N08E48	Q	
						S31E57	0	0	0			S31E57	Q	
						N24E69	0	0	0			N24E69	Q	
140	19	18	249	214	005	S16W79	1	0	0		19	S16W79	Q	SOLALERT 19/20
						N39W66	0	0	0			N39W66	Q	MAGQUIET
						S20W60	0	0	0			S20W60	Q	
						S22W38	0	0	0			S22W38	Q	
						S07W18	0	0	0			S07W18	E	
						N27W09	0	0	0			N27W09	Q	
						N15E05	3	1	0			N15E05	E	
						S13E22	4	0	0			S13E22	A	
						N09E35	0	0	0			N09E35	Q	
						S28E45	1	0	0			S28E45	Q	
						N25E57	2	0	0			N25E57	Q	
						N18E58	4	0	0			N18E58	Q	
						S23E70	3	0	0			S23E70	Q	
						S07E80	0	0	0			S07E80	E	
141	20	19	366	229	008	S18W92	0	0	0		20	S18W92	Q	SOLALERT 20/21
						S21W73	0	0	0			S21W73	Q	MAGQUIET
						S22W51	1	0	0			S22W51	Q	
						S08W32	1	0	0			S08W32	E	
						N16W08	1	0	0			N16W08	E	
						S12E08	2	0	0			S12E08	A	
						N08E17	0	0	0			N08E17	Q	
						S12E19	0	0	0			S12E19	Q	
						S30E31	3	0	0			S30E31	Q	
						N16E43	1	0	0			N16E43	Q	
						N25E44	0	0	0			N25E44	Q	
						S23E60	0	0	0			S23E60	Q	
						S21E60	0	0	0			S21E60	Q	
						S07E70	3	0	0			S07E70	E	
						S11E80	0	0	0			S11E80	Q	
						S20E82	1	0	0			S20E82	Q	

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142	21	20	330	244	007	S20W84	0	0	0		21	S20W84	Q	SOLALERT 21/XX
						S22W63	0	0	0			S22W63	Q	MAGQUIET
						N09W48	0	0	0			N09W48	Q	
						S08W44	0	0	0			S08W44	E	
						N15W21	0	0	0			N15W21	E	
						S13W05	0	0	0			S13W05	E	
						S13E05	0	0	0			S13E05	Q	
						N09E09	0	0	0			N09E09	Q	
						S31E19	0	0	0			S31E19	Q	
						N16E30	0	0	0			N16E30	Q	
						N23E32	0	0	0			N23E32	Q	
						S26E47	0	0	0			S26E47	Q	
						S22E47	0	0	0			S22E47	Q	
						S09E56	1	0	0			S09E56	E	
						S13E69	3	0	0			S13E69	E	
						S21E69	4	0	0			S21E69	E	
143	22	21	314	246	005	S22W77	0	0	0	PRESTO BOULDER SO-	22	S22W77	Q	SOLALERT 22/XX
						S08W58	0	0	0	FLARE X1/2B S14W15		S08W58	Q	PROTON ARRIVAL ALERT 22/21
						S11W34	0	0	0	21/2048Z DURATION		S11W34	Q	MAGQUIET
						N16W33	0	0	0	29 MINUTES. BOULDER		N16W33	Q	
						S13W18	3	0	1	TENFLARE 21/2049Z		S13W18	E	
						S13W08	1	0	0	1100 FLUX UNITS DU-		S13W08	Q	
						N09W04	0	0	0	RATION 24 MINUTES.		N09W04	Q	
						S31E09	0	0	0	TOYOKAWA TENFLARE		S31E09	Q	
						N16E16	0	0	0	22/0020Z 620 FLUX		N16E16	E	
						S12E18	0	0	0	UNITS 21/2054Z DU-		S12E18	Q	
						N23E19	0	0	0	RATION 12 MINUTES.		N23E19	Q	
						S25E29	0	0	0			S25E29	Q	
						S22E33	0	0	0			S22E33	E	
						S08E43	0	0	0			S08E43	A	
						S20E54	3	0	0			S20E54	A	
						S13E56	1	0	0			S13E56	E	
						S17E81	0	0	0			S17E81	E	
144	23	22	375	270	007	S08W73	0	0	0		23	S08W73	Q	SOLALERT 23/25
						S11W48	0	0	0			S11W48	Q	MAGALERT 23/24
						N16W47	0	0	0			N16W47	Q	
						S13W31	3	0	0			S13W31	E	
						S20W31	0	0	0			S20W31	Q	
						S15W20	0	0	0			S15W20	Q	
						S29W09	1	0	0			S29W09	Q	
						N15E02	3	1	0			N15E02	Q	
						N23E06	0	0	0			N23E06	Q	
						S21E19	1	0	0			S21E19	Q	
						S24E20	0	0	0			S24E20	Q	
						S08E30	1	0	0			S08E30	Q	
						S13E43	1	0	0			S13E43	E	
						S21E43	0	0	0			S21E43	E	
						S18E65	0	0	0			S18E65	Q	
						N09E67	1	0	0			N09E67	Q	
145	24	23	411	278	009	S07W84	0	0	0		24	S07W84	Q	SOLALERT 24/25
						N16W62	0	0	0			N16W62	Q	MAGALERT 24/24
						S13W43	0	0	0			S13W43	A	
						S15W32	0	0	0			S15W32	Q	
						N16W10	0	0	0			N16W10	E	
						N25W07	0	0	0			N25W07	Q	
						S22E05	0	0	0			S22E05	Q	
						S24E06	0	0	0			S24E06	E	
						S08E18	4	1	0			S08E18	E	
						S12E30	0	0	0			S12E30	A	
						S20E31	8	0	0			S20E31	A	
						S18E52	0	0	0			S18E52	Q	
						N08E54	0	0	0			N08E54	Q	
146	25	24	320	283	010	N14W78	0	0	0		25	N14W78	Q	SOLALERT
						S14W57	2	0	0			S14W57	Q	MAGNIL
						N16W24	3	0	0			N16W24	E	
						N24W20	0	0	0			N24W20	Q	
						S19W11	0	0	0			S19W11	Q	
						S24W08	0	0	0			S24W08	Q	
						S08E05	1	0	0			S08E05	E	
						S12E16	2	0	0			S12E16	E	
						S19E18	3	0	0			S19E18	E	
						S17E39	0	0	0			S17E39	Q	
						N10E40	6	0	0			N10E40	E	
						S09E79	1	0	0			S09E79	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

MAY 1980

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	No. of Flares: Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
147	26	25	251	285	032	S13W69	2	1	0		26	S13W69	E	SOLALERT 26/28
						N17W38	1	0	0			N17W38	E	MAGQUIET
						N25W33	1	0	0			N25W33	Q	
						S19W24	0	0	0			S19W24	Q	
						S23W21	0	0	0			S23W21	Q	
						S07W08	1	0	0			S07W08	E	
						S12E02	2	0	0			S12E02	E	
						S19E04	5	0	0			S19E04	E	
						S16E25	2	0	0			S16E25	Q	
						N10E27	0	0	0			N10E27	Q	
						S10E67	3	0	0			S10E67	E	
						N10E71	0	0	0			N10E71	Q	
148	27	26	252	277	008	S11W83	0	0	0		27	S11W83	E	SOLALERT 27/29
						N16W53	1	0	0			N16W53	Q	MAGQUIET
						N26W46	0	0	0			N26W46	Q	
						S19W36	0	0	0			S19W36	Q	
						S23W34	0	0	0			S23W34	Q	
						S07W20	0	0	0			S07W20	E	
						S11W12	3	0	0			S11W12	E	
						S19W09	2	0	0			S19W09	E	
						S16E10	1	0	0			S16E10	Q	
						S10E15	3	0	0			S10E15	Q	
						S11E55	4	0	0			S11E55	E	
						N10E57	0	0	0			N10E57	Q	
149	28	27	275	276	004	N16W65	0	0	0		28	N16W65	Q	SOLALERT 28/29
						S19W50	0	0	0			S19W50	Q	MAGQUIET
						S08W34	0	0	0			S08W34	E	
						S11W25	0	0	0			S11W25	E	
						S20W22	3	0	0			S20W22	E	
						S22W04	0	0	0			S22W04	E	
						S16W02	2	0	0			S16W02	Q	
						N10E03	1	0	0			N10E03	Q	
						N17E39	0	0	0			N17E39	Q	
						S11E40	2	1	0			S11E40	E	
						N11E45	0	0	0			N11E45	Q	
						S33E62	0	0	0			S33E62	Q	
						S20E74	0	0	0			S20E74	Q	
150	29	28	292	284	006	N18W81	0	0	0	PRESTO BOULDER, M3/1B S18W35 28/1705Z 46 MINUTE DURATION. 10 CM 320 FLUX UNITS 41 MINUTE DURATION. X1/2B S18W33 28/1924Z 14 MINUTE DURATION. 10 CM 1300 FLUX UNITS 34 MINUTE DURATION. M6/2B S17W39 28/2332Z 35 MINUTE DURATION. 10 CM 63 FLUX UNITS 13 MINUTE DURATION.	29	N18W81	Q	SOLALERT 29/XX
						N34W79	0	0	0			N34W79	Q	MAGQUIET
						S08W47	3	0	0			S08W47	E	
						S12W38	1	0	0			S12W38	E	
						S19W36	12	4	1			S19W36	A	
						S17W15	0	0	0			S17W15	E	
						S22W15	0	0	0			S22W15	Q	
						N10W12	5	0	0			N10W12	Q	
						S10E27	6	0	0			S10E27	E	
						N11E33	0	0	0			N11E33	Q	
						S33E48	0	0	0			S33E48	Q	
						S33E51	0	0	0			S33E51	Q	
						S20E62	0	0	0			S20E62	Q	
151	30	29	299	245	007	S08W62	1	0	0	PRESTO TOYOKAWA TEN-FLARE 190 UNITS 29/0503Z DURATION 37 MINUTES.	30	S08W62	E	SOLALERT 30/XX
						S12W54	1	0	0			S12W54	E	MAGALERT MINOR 30/31
						S19W49	3	1	0			S19W49	A	
						S22W29	1	0	0			S22W29	Q	
						S18W27	0	0	0			S18W27	Q	
						N10W25	1	0	0			N10W25	E	
						S12E13	2	0	0			S12E13	E	
						N12E19	0	0	0			N12E19	Q	
						S33E35	0	0	0			S33E35	Q	
						S20E49	0	0	0			S20E49	Q	
						N12E70	0	0	0			N12E70	Q	
						S13E76	0	0	0			S13E76	Q	
152	31	30	194	217	012	S08W75	1	0	0		31	S08W75	Q	SOLALERT 31/02
						S12W68	1	0	0			S12W68	E	MAGALERT MINOR 31
						S20W61	3	0	0			S20W61	E	
						S18W38	0	0	0			S18W38	Q	
						N10W38	1	0	0			N10W38	E	
						S12W00	1	0	0			S12W00	E	
						N12E06	0	0	0			N12E06	Q	
						S32E24	1	0	0			S32E24	Q	
						S20E38	0	0	0			S20E38	Q	
						N12E56	0	0	0			N12E56	Q	
						S12E60	0	0	0			S12E60	Q	

A=Active C=Caution D=Doubtful E=Eruptive MF=Major Flare OG=Other Groups P=Proton Q=Quiet

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

	1979 FINAL							1980 PROVISIONAL				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	121	158	115	165	213	224	122	153	208	101	185	121
2	145	168	96	141	187	157	156	158	187	168	145	149
3	154	205	121	148	167	155	187	148	185	151	133	140
4	178	219	110	157	156	172	218	173	182	136	123	166
5	207	232	93	139	168	166	232	190	178	130	154	192
6	226	249	104	139	168	203	206	207	215	132	185	145
7	222	223	110	178	179	240	212	218	240	128	200	147
8	220	219	132	192	190	260	262	225	230	101	199	157
9	224	191	115	190	210	279	280	262	172	103	229	168
10	205	163	92	177	178	302	260	224	140	69	214	144
11	186	155	84	167	183	295	242	245	140	67	245	142
12	199	145	87	156	189	248	261	210	135	70	257	143
13	172	142	91	175	201	183	235	181	131	71	259	150
14	149	127	112	186	213	210	230	170	146	68	203	166
15	117	121	135	177	198	186	225	146	168	52	182	157
16	103	107	115	163	185	166	215	166	163	36	154	148
17	122	109	124	155	214	238	190	160	132	67	126	173
18	126	109	143	177	224	172	151	130	122	63	127	215
19	110	135	176	195	221	174	138	116	129	119	134	218
20	111	158	187	191	214	153	126	115	139	108	173	230
21	124	151	218	184	209	124	124	121	114	105	143	233
22	108	152	216	178	191	116	111	123	99	138	122	244
23	96	154	206	219	179	142	116	124	100	149	95	246
24	98	143	203	236	161	162	138	120	122	175	112	256
25	120	144	201	252	153	155	143	107	121	176	139	229
26	132	142	182	261	145	141	116	127	152	191	171	220
27	112	146	189	256	136	115	93	128	175	205	156	223
28	128	132	174	239	142	119	98	130	197	221	149	190
29	124	148	158	235	184	98	121	122	181	191	145	170
30	154	150	150	233	198	116	139	145		182	138	150
31		144	168		223		135	174		183		138
MEAN	149.5	159.4	142.2	188.4	186.2	183.3	176.3	162.2	159.3	126.5	166.6	179.7

1979 YEARLY MEAN = 155.4

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_{ii}

	1979							1980				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	189.5	186.3	149.1	175.8	212.8	211.6	161.9	189.1	212.6*	175.7	181.9	218.5
2	206.8*	208.9*	143.9*	180.1	211.5	209.5	172.0*	199.9	217.9	172.9	181.1*	223.0
3	216.1*	213.4	145.1	180.8	204.7	207.5	195.1*	211.9*	225.7	170.2*	176.1	221.2
4	228.8*	218.1	141.7	175.3*	197.7*	214.2	221.0	212.4*	231.7	172.7*	184.3*	223.1*
5	230.2	204.5	141.6	177.1	192.8*	235.5	223.4*	207.7	218.9	171.8	209.7*	221.9
6	230.1	211.3	149.5	180.4*	195.5	273.2*	223.4	222.1	221.7	169.4	238.4*	203.5
7	238.1	207.2	151.1	186.3	197.8	286.9*	222.6	228.0	223.9*	166.3	236.1*	203.4
8	242.7	206.7	152.7	183.6	200.3	310.1	228.9*	228.1*	218.7	164.9	241.7	200.2*
9	247.4*	197.9*	157.3	187.4	209.5	314.4*	232.4	240.9*	208.2*	161.3	244.7*	193.6
10	239.9	185.9	152.1*	184.6	208.7	367.8*	238.3	253.8*	204.6*	153.9	249.8	191.1
11	229.6	178.6	154.4	181.5*	211.8	325.7*	238.6*	255.7*	213.7	147.8	249.9	191.4*
12	208.3	178.1	144.8	181.7	216.4	294.4	232.3	245.1*	213.7	138.6	245.6	189.5
13	193.7	161.4	155.8	186.1	239.1	272.7	231.7	221.6	217.9	144.6	232.8	192.9
14	185.7	154.7*	158.2*	192.6*	236.4	256.4	238.3	203.8	201.8	141.2	226.3	202.9
15	176.8	151.1	167.6	193.8	238.7	239.7*	231.8	200.0	201.2*	139.3	206.1*	199.8
16	167.5	143.6	164.8	196.3*	232.3	230.6	216.3	188.6	200.2	137.3	192.4	202.9*
17	158.1	142.7	165.8	202.7*	226.8	231.8	202.2	186.9	182.8*	142.9	191.9	207.5*
18	152.6	141.2	180.8	215.7	236.8	231.9	187.4	177.5	180.8*	147.4	201.4	214.3*
19	146.2	143.6	186.4	218.1*	237.3*	214.8	183.8	164.4	177.3	162.3	214.5*	234.2
20	151.5	146.6	204.2*	213.9*	236.7*	205.9	180.8*	156.5	174.7	162.1	215.8	244.7*
21	148.9	143.7*	207.6*	210.4	238.1	189.8	176.7*	153.4	169.6	162.4	207.7	252.6
22	141.1	155.7	223.2	216.5	221.9	182.5	175.3	158.2*	167.3	162.5	199.2	276.6
23	139.8	163.1*	218.6	224.2*	214.9*	183.2	168.6	166.7	168.1	172.4*	186.2	289.5
24	141.2	168.6	225.2	230.7	225.6*	175.2*	168.2	171.1*	157.2*	172.4	186.3	290.2
25	147.8	164.5	229.3*	235.5	215.2	165.8*	162.8	171.3*	165.7	182.5*	185.9	292.8
26	153.7	165.6	223.3	229.9*	202.9	161.6	159.7	178.8*	169.8	185.2	186.6	284.2
27	158.5	159.1*	212.8	228.7*	211.2	155.7	153.6*	190.6*	173.2	195.3*	200.6*	281.2*
28	159.1	158.1	214.2	233.8	210.8	150.1	163.1	194.8	171.7*	203.5	203.7	288.8*
29	166.9	156.7	197.6	225.8	214.8	154.8	174.8	197.8	176.7*	199.9	203.5*	252.3
30	176.7*	160.3	187.8	231.9	213.7*	152.2	185.5	197.9	.	194.3*	200.9	222.7
31	.	152.4	179.9	.	214.9*	.	188.9	213.9*	.	187.2*	.	208.6
MEAN	186.8	171.4	177.8	202.3	216.4	226.8	197.2	199.6	195.1	166.5	209.3	229.1

* adjusted for burst
A = interpolated data point

DAILY SOLAR INDICES

MAY 1980

MAY 1980	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	122	5	121	128	215.1	522	358	234	218.5	194	156		47	
2	123	6	149	148	219.5	526	404	237	223.0	218	144		50	
3	124	7	140	166	217.5	523	401	232	221.2	208	151		47	
4	125	8	166	159	219.4*	531	406	225	223.1*	217	158		64	
5	126	9	192	180	218.0	532	395	221	221.9	213	152		51	
6	127	10	145	158	199.9	533	386	205	203.5	198	151		41	
7	128	11	147	129	199.6	449	382	207	203.4	197	155		41	
8	129	12	157	127	196.5*	447	365	206	200.2*	191	156		38	
9	130	13	168	126	190.0	525	371	206	193.6	186	143		41	
10	131	14	144	122	187.4	513	362	193	191.1	182	146		37	
11	132	15	142	141	187.6*	510	370	197	191.4*	181	143		44	
12	133	16	143	136	185.6	503	361	176	189.5	180	145		32	
13	134	17	150	135	188.9	462			192.9		148		36	
14	135	18	166	129	198.5				202.9					
15	136	19	157	143	195.5	533			199.8		148		41	
16	137	20	148	151	198.3*	531			202.9*		140		41	
17	138	21	173	174	202.8*	538			207.5*		135		42	
18	139	22	215	182	209.3*	541			214.3*		157		42	
19	140	23	218	210	228.7				234.2					
20	141	24	230	224	239.0*	564			244.7*		166		42	
21	142	25	233	237	246.4	547	428	243	252.6	246	170		41	
22	143	26	244	246	269.9	563	406	254	276.6	258	170		47	
23	144	27	246	216	282.2	566	456	280	289.5	269	182		48	
24	145	1	256	248	282.8	560	462	283	290.2	278	188		87	
25	146	2	229	240	285.4	561	449	280	292.8	275	179		66	
26	147	3	220	229	276.7	558	440	275	284.2	261	189		74	
27	148	4	223	216	273.8*	556	426	271	281.2*	265	180		52	
28	149	5	190	232	273.4*	551	436	282	280.8*	275	167		42	
29	150	6	170	204	245.4	560	407	241	252.3	236	159		74	
30	151	7	150	177	216.6	545	390	226	222.7	215	143		43	
31	152	8	138	159	195.1	520	369	205	200.6	188	134		41	
MEAN			179.7	176.5	224.0	530	401	233	229.1	223	157		48	

* Adjusted for burst.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

	SUNSPOT NUMBERS						2800 MHz FLUX adjusted to 1 AU	
	Rz		Ra		Rs		Sa	
Date	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Jun 77	38.5	26	34.4	25	40.1	31	94.5	86
Jul	21.4	29	18.3	27	28.4	33	83.7	88
Aug	30.1	33	27.6	32	31.3	37	86.4	92
Sep	44.0	39	41.9	37	47.0	43	100.9	97
Oct	43.8	46	45.5	44	42.0	49	96.3	103
Nov	29.1	52	28.4	50	36.9	56	91.6	109
Dec	43.2	57	42.8	55	44.8	61	98.9	114
Jan 78	51.9	61	48.8	59	52.6	66	106.1	118
Feb	93.6	64	90.9	61	91.1	69	141.8	122
Mar	76.5	70	73.9	66	89.5	73	140.3	125
Apr	99.7	77	97.5	72	100.5	79	150.5	130
May	82.7	83	79.6	78	99.7	84	149.7	135
Jun	95.1	89	88.0	84	96.5	90	146.8	141
Jul	70.4	97	58.1	92	84.2	97	135.2	147
Aug	58.1	104	48.1	98	64.3	104	116.9	153
Sep	138.2	108	128.1	103	110.4	108	159.6	158
Oct	125.1	111	116.0	105	107.7	111	157.1	160
Nov	97.9	113	92.8	107	98.1	113	148.2	162
Dec	122.7	118	121.0	111	121.6	116	170.0	165
Jan 79	166.6	124	164.4	116	150.2	119	196.5	168
Feb	137.5	131	136.8	123	153.0	124	199.1	172
Mar	138.0	136	132.5	128	136.7	128	184.0	176
Apr	101.5	141	95.8	133	127.0	133	175.0	180
May	134.4	147	121.8	139	120.4	139	168.9	186
Jun	149.5	153	136.4	144	138.9	144	186.0	191
Jul	159.4	156*	140.5	145	123.1	145	171.4	192
Aug	142.2	157*	125.1	144	129.2	145	177.0	192
Sep	188.4	157*	184.0	143	156.5	144	202.3	191
Oct	186.2	158*	178.2	144	171.7	145	216.4	192
Nov	183.3	163*	176.5	149	182.9	149	226.8	196
Dec	176.3	163(±4)*	157.6	149	151.0	149	197.2	---
Jan 80	162.2*	161(±9)*	146.7	148	153.6	148	199.6	---
Feb	159.3*	159(±11)*	131.0	146	148.7	146	195.1	---
Mar	126.5*	158(±15)*	111.0	145	117.8	145	166.5	---
Apr	166.6*	157(±20)*	148.7	145	164.0	145	209.3	---
May	179.7*	156(±25)*	176.5	144	185.4	144	229.1	---
Jun	---	153(±29)*	---	142	---	142	---	---
Jul	---	149(±33)*	---	138	---	138	---	---
Aug	---	145(±36)*	---	136	---	136	---	---
Sep	---	143(±37)*	---	134	---	134	---	---
Oct	---	142(±38)*	---	133	---	133	---	---
Nov	---	141(±40)*	---	132	---	132	---	---

*An asterisk denotes a value of the observed monthly mean, or the observed 12-month running mean, or the predicted 12-month average that is based only on preliminary observations of the Zürich relative sunspot number (Rz). Parentheses enclose the 90% confidence limits. Hatched boxes enclose the most recent smoothed values; boxes not shaded enclose predicted values. Ra is the new symbol for R_A'.

ERRATA: The smoothed values of Rs and Sa for August 1977 through September 1978, published in the four earlier editions of this table, are in error. These incorrect data appear in SGD 426-429 Part I on either page 10 or 11 (February - May 1980 issues).

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 21

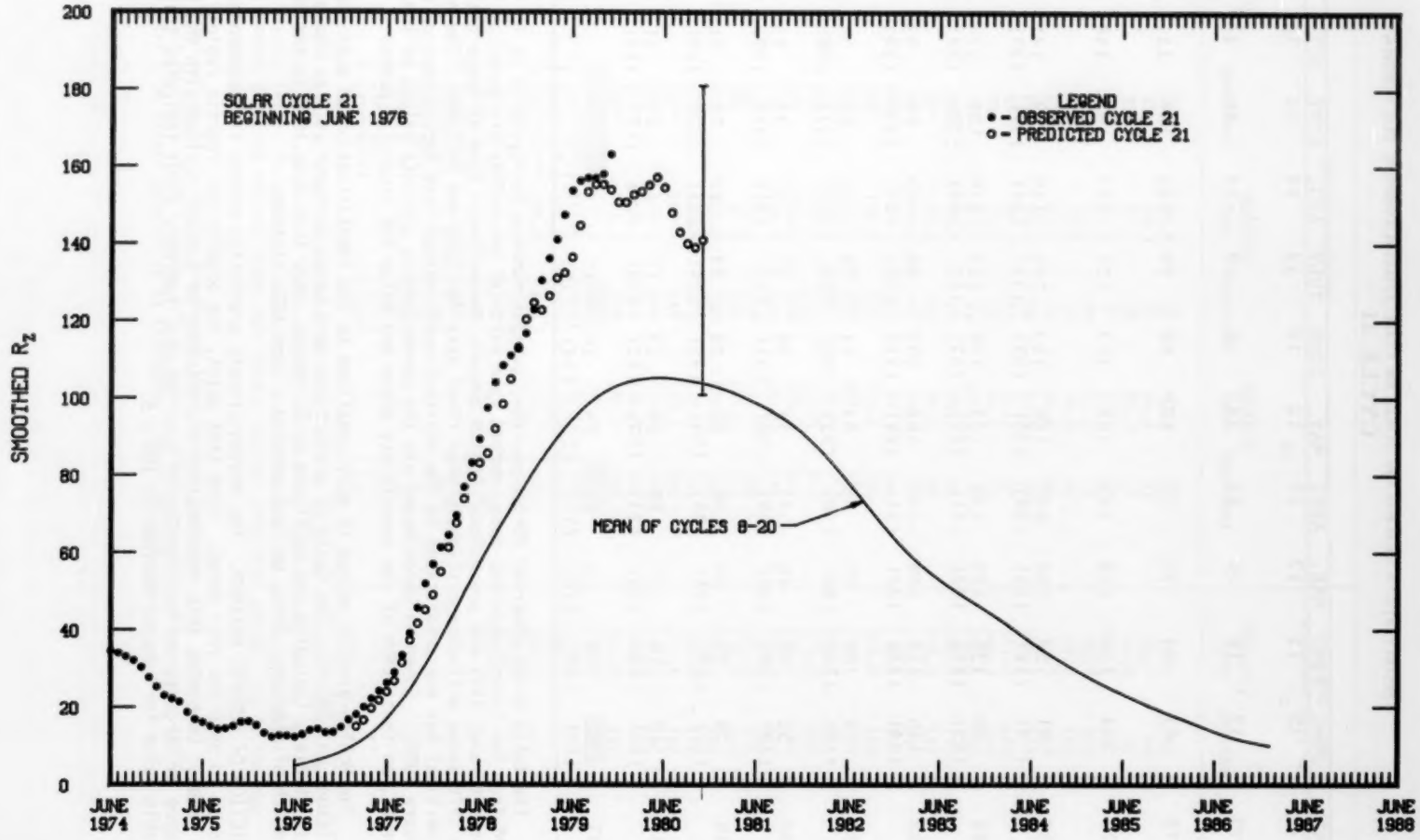
MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1976	15	13	12	13	12	12	13	14	14	13	13	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	64	70	77	83	89	97	104	108	111	113	118
1979	124	131	136	141	147	153	156	157	157	158	163	[163* (4)
1980	161 (9)	159 (11)	158 (15)	157 (20)	156 (25)	153 (29)	149 (33)	145 (36)	143 (37)	142 (38)	141 (40)	139 (43)
1981	139 (45)	139 (45)	137 (42)	134 (41)	131 (42)	128 (42)	127 (41)	126 (40)	126 (39)	124 (39)	122 (38)	119 (36)
1982	115 (34)	111 (33)	109 (32)	107 (31)	104 (29)	102 (27)	98 (25)	93 (24)	88 (23)	83 (20)	80 (19)	76 (19)
1983	72 (19)	69 (19)	67 (20)	65 (20)	63 (21)	61 (22)	59 (23)	57 (25)	55 (27)	54 (28)	53 (30)	52 (30)
1984	51 (30)	48 (30)	45 (29)	41 (29)	39 (30)	38 (31)	37 (32)	36 (31)	34 (31)	32 (29)	31 (28)	29 (27)
1985	28 (27)	27 (27)	26 (26)	26 (26)	25 (26)	24 (25)	23 (24)	22 (23)	21 (23)	21 (23)	20 (24)	19 (24)
1986	19 (25)	18 (24)	17 (24)	16 (23)	14 (22)	13 (21)	12 (20)	11 (19)	11 (17)	11 (16)	11 (15)	11 (13)
1987	11 (12)	11 (12)	12 (12)	13 (12)	14 (13)	16 (14)	17 (15)					

The table gives observed Zürich *smoothed* sunspot numbers for Cycle 21 up to the one calculated from the latest observed data, marked by a vertical bar. They are based on final Zürich numbers through 1979 and provisional Zürich numbers thereafter. Some of these data after the June 1976 value will change slightly when final data for 1980 are included. The numbers after the vertical bar are predictions by the McNish-Lincoln method (see *Explanation of Data Reports*, February 1980). Shown in parentheses are the corresponding absolute values of the 90% confidence interval, an indication of the uncertainty above and below the predicted number.

The McNish-Lincoln method is very sensitive to the identification of a minimum epoch. In SGD issues No. 390-401, the Cycle 21 predictions were based on March 1976 as the minimum epoch. Latest studies, including one published by Waldmeier, show that June 1976 is the more appropriate epoch of minimum. Thus, we have adopted a June 1976 minimum.

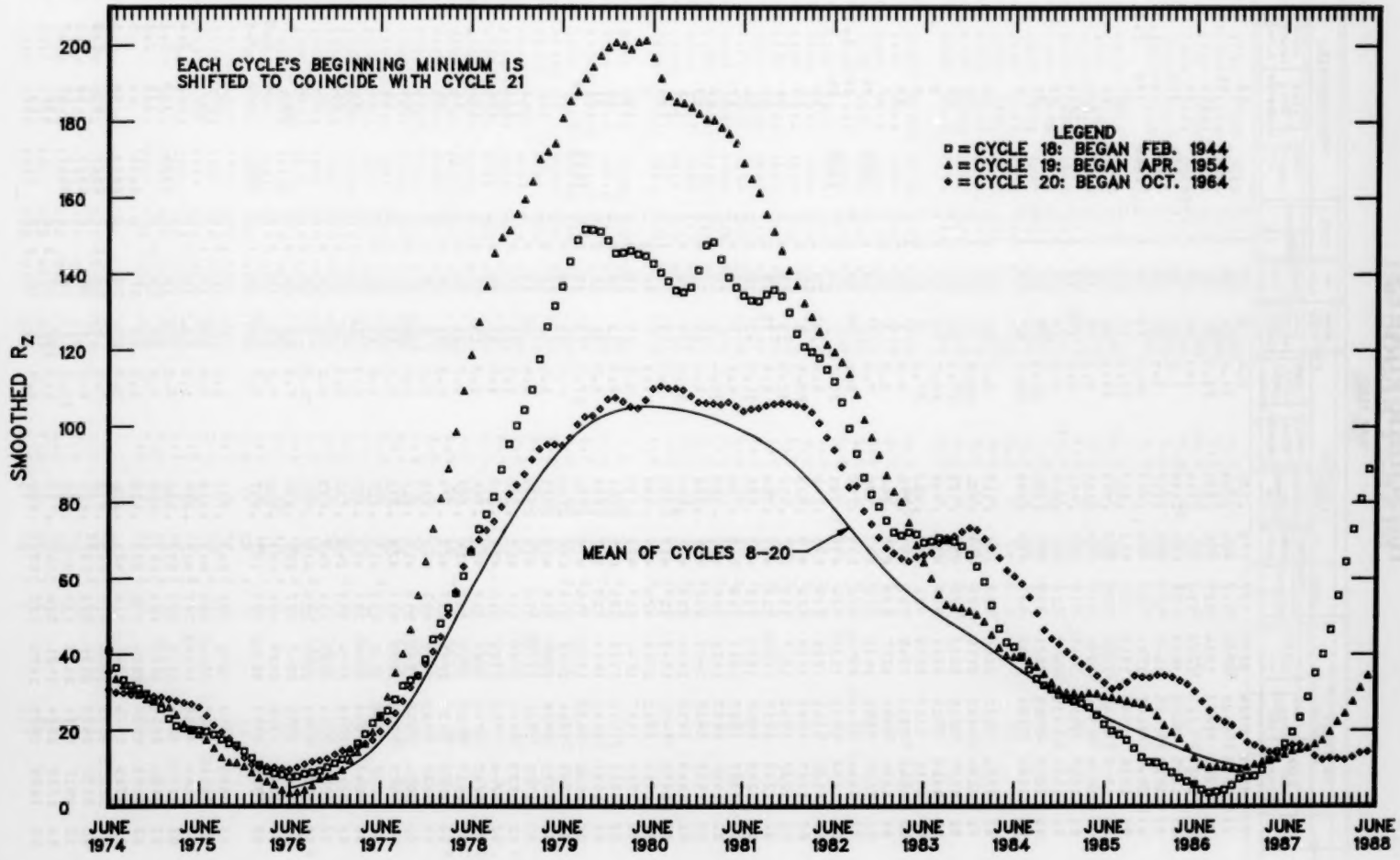
*PREDICTION OF SUNSPOT MAXIMUM. The McNish-Lincoln prediction method is recommended for predictions up to only one year ahead. From that point, the predictions regress rapidly toward the mean value. Combining this McNish-Lincoln prediction of sunspot maximum with the Ohl method (as done by Sargent, see *Explanation of Data Reports*, February 1980) indicates that the most probable value for sunspot maximum is 163 ± 5.

OBSERVED AND PREDICTED SMOOTHED SUNSPOT NUMBERS



SUPERPOSITION OF CYCLES 18, 19, AND 20

SUPERPOSITION OF CYCLES 18, 19, AND 20



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May 80

Hα SOLAR FLARES

MAY 1980

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LONG. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
PALE	01	0331	0334	0339	S22	E70	.934		6.4	8	SF	3	C		50		
CATA	01	0615	0620	0715	S17	W06	.208		31.8	60	SN	2	C	0620	56	.6	Z
RAMY	01	1205	1223	1234	S25	W56	.834		28.3	29	SF	3	C		110		
RAMY	01	1214	1215	1256	S19	W01	.216		1.4	44	SF	3	C		36		
BIGB	01	1555	1553	1629	N25	E74	.980		7.2	34	1B	1	C	1559	208		
BIGB	01	1622	1625	1647	S21	E63	.887		6.4	25	SN	1	C	1625	80	1.8	
BIGB	01	1642	1645	1701	S23	W59	.857		28.3	19	SN	1	C	1645	100	2.0	
HOLL	01	1816	1840	1915	S25	W60	.867		28.3	59	1B	3	C		227		
RAMY	01	1840	1843	1925	S24	W62	.881		28.1	45	SN	3	C		76		
RAMY	01	1851	1915	1941	S22	E60	.864		6.3	50	1B	3	C		285		D
HOLL	01	1907	1916	1917D	S19	C53	.854		6.2	100	1B	3	C		299		
RAMY	01	1928	1931	1943	S17	W07	.216		1.3	15	SF	3	C		28		
RAMY	01	2003	2004	2029	S24	W65	.903		28.0	25	SF	3	C		25		
HOLL	01	2104	2104	2151	S35	W90	.998		26.1	47	SN	3	C		0		
PALE	02	0034	0036	0045	N20	E62	.917		6.7	11	SF	2	C		30		D
PALE	02	0106	0106	0110	S26	W65	.904		28.2	4	SF	2	C		22		D
PALE	02	0225	0226	0243	S24	W69	.929		27.9	18	SF	2	C		25		D
PALE	02	0310	0310	0321	N23	W83	.998		26.9	11	SF	2	C		0		D
PALE	02	0315	0315	0320	N22	W80	.993		27.1	5	SF	2	C		8		D
PALE	02	0340	0340	0345	S17	E51	.776		6.0	5	SF	2	C		19		D
PALE	02	0354	0355	0357	S20	E38	.846		6.5	3	SF	2	C		17		D
CATA	02	0625	0625	0630	N26	E63	.935		7.0	5	1N	1	C	0625	84		
MANI	02	0944E	0946U	0952D	S20	E49	.759		6.1	80	SN	1	V		80	1.3	
CATA	02	1130	1130	1130D	N24	W30	1.001		26.7		1N	2	P	1130	56		
RAMY	02	1139	1141	1218	S19	E48	.746		6.1	31	SN	3	C		65		
RAMY	02	1208	1208	1212	S26	W58	.923		28.4	4	SN	3	C		19		
RAMY	02	1237	1241	1247	S18	W22	.412		31.9	10	SB	3	C		94		
RAMY	02	1249	1255	1256D	S17	W13	.284		1.6	70	SB	3	C		64		
RAMY	02	1249	1255	1329	S18	W23	.426		31.8	40	SB	3	C		64		
RAMY	02	1307	1307	1313	S19	E48	.746		6.1	6	SF	3	C		17		
RAMY	02	1406	1407	1410	S26	W69	.929		28.4	4	SN	3	C		13		
RAMY	02	1418	1432	1443	S18	W18	.358		1.2	25	SF	3	C		23		
RAMY	02	1445	1455	1544	S19	W23	.433		31.9	59	SN	3	C		107		
HOLL	02	1450	1454	1543	S17	W17	.336		1.3	53	SB	3	C		145		
RAMY	02	1511	1511	1518	N24	W84	.999		27.3	7	SF	3	C		0		
HOLL	02	1516	1517	1544	S19	W22	.419		1.0	28	SN	3	C		105		
HOLL	02	1517	1517	1530	S21	E49	.761		6.3	13	SN	3	C		35		
HOLL	02	1557	1601	1613	S19	E47	.735		6.2	16	SF	3	C		31		
BIGB	02	1632	1633	1652	S14	W35	.994		27.3	20	1N	2	C	1633	50		
HOLL	02	1705	1706	1745	S18	E46	.722		6.2	40	SN	3	C		66		
HOLL	02	1722	1750	1804	S15	W18	.335		1.4	42	SB	3	C		162		
HOLL	02	1722	1726	1727D	S15	W16	.335		1.4	50	1N	3	C		243		
PALE	02	1723	1725	1744	S17	W17	.336		1.4	21	1N	3	C		260		
PALE	02	1746	1750	1803	S16	W18	.342		1.4	17	SB	3	C		156		
RAMY	02	1747	1750	1802	S17	W19	.364		1.3	15	SN	3	C		108		
HOLL	02	1817	1820	1845	S17	W14	.297		1.7	31	SB	3	C		76		
RAMY	02	1820	1830	1841	S17	W20	.378		1.3	21	SN	3	C		39		
HOLL	02	1832	1833	1838	N27	E61	.926		7.3	6	SF	3	C		19		
PALE	02	2024	2033	2046D	S19	W14	.317		1.8	220	SF	3	C		49		
HOLL	02	2028	2029	2039	S17	W20	.378		1.4	11	SN	3	C		41		
PALE	02	2047	2048	2102	S19	W14	.317		1.8	15	SN	3	C		70		D
RAMY	02	2047	2048	2054D	S17	W21	.392		1.3	70	SF	3	C		28		
HOLL	02	2216	2218	2224	S19	E45	.713		6.3	6	SF	3	C		25		
PALE	02	2254	2255	2305	S19	E43	.690		6.2	11	SF	3	C		35		D
PALE	02	2302	2302	2304	S25	W76	.964		28.3	2	SF	2	C		0		
PALE	02	2344	0006	0047	N27	E56	.896		7.2	63	2N	3	C		300		D
MANI	02	2348	2359	0037	N26	E57	.900		7.3	49	1N	2	P		150	2.9	
BIGB	02	2350	2353	0054D	N25	E57	.897		7.3	64D	1N	1	P	2353	200	3.8	
PALE	03	0050	0052	0058	S20	E47	.733		6.6	8	SF	3	C		38		D
PALE	03	0141E	0205U	0244D	S19	W14	.318		2.0	63D	1B	3	C		197		D
MANI	03	0200	0206	0210D	S17	W17	.337		1.8	100	1N	2	P		220	2.4	
WEND	03	0753S	0804	0818	N25	E52	.862		7.2	250	1B		C	0804	113	2.1	
MANI	03	0753	0803	0815	N25	E53	.869		7.3	22	SN	2	P		110	2.1	
WEND	03	0800	0804	0814	S16	W23	.414		1.6	14	SF		C	0804	41	.5	
WEND	03	0819	0829	0842	S18	W21	.396		1.8	23	SN		C	0829	50	.6	E
CATA	03	0825S	0825	0830	N26	E53	.873		7.3	50	1B	1	P	0825	112	2.3	
WEND	03	0858	0900	0935	S21	E37	.624		6.1	7	SF		C	0900	68	.9	
WEND	03	0917	0917	0923	S33	W34	.659		31.8	6	SF		C	0917	47	.7	
RAMY	03	1239	1304	1421	S26	E43	.712		6.8	102	1N	3	C		406		
RAMY	03	1620	1623	1626	S22	E38	.640		6.5	6	SB	3	C		42		

Hα SOLAR FLARES

MAY 1980

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LON. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
BIGB	03	1749	1752	1910	S16	W29	.499		1.6	81	1N	1	C	1752	190	2.2	
RAMY	03	1749	1755	1815	S16	W29	.499		1.6	26	1N	3	C		191		
BIGB	03	1847	1851	1917	S22	W90	.999		28.0	30	1B	1	C	1851	50		
RAMY	03	2034	2037	2043D	N12	E02	.318		4.0	9D	SF	3	C		55		
MANI	03	2215	2218	2234	S19	W34	.579		1.4	19	SN	2	P		80	1.0	
MANI	03	2315	2318	2326	S19	W35	.592		1.3	11	SN	2	P		150	2.0	
BIGB	04	0041	0043	0058	S22	W30	.999		28.3	17	1B	1	C	0043	60		
BIGB	04	1508	1509	1517	S19	W42	.679		1.5	9	SB	1	C	1509	80	1.0	
HOLL	04	1508	1510	1515	S20	W42	.681		1.5	7	SB	3	C		96		
BIGB	04	1630	1635	1641	S07	E90	1.000		11.4	11	1N	2	C	1635	60		
HOLL	04	1825	1830	1840	S17	W41	.662		1.7	15	SN	3	C		46		
PALE	04	1829	1830	1837	S17	W41	.662		1.7	8	SF	3	C		25		
HOLL	04	2105	2107	2109	S19	E17	.355		6.2	4	SN	3	C		22		
HOLL	04	2206	2206	2212	S21	E22	.436		6.6	6	SF	3	C		27		
MANI	04	2335	2337	2346	S29	W48	.772		1.4	11	SN	2	P		80	1.3	
PALE	04	2336	2340	2345	S21	W47	.740		1.5	9	SN	3	C		43		
HOLL	04	2336	2336	2344	S21	W47	.740		1.5	8	SN	3	C		21		
MANI	05	0624E	0624U	0640D	S26	E20	.460		6.9	16D	SF	1	V		15	1.0	
HOLL	05	1439	1444	1456	S21	W55	.820		1.5	17	SB	3	C		143		
RAMY	05	1444	1445	1452	S20	W56	.829		1.4	8	SB	3	C		110		
RAMY	05	1536	1537	1545	S20	W01	.237		5.6	9	SF	3	C		52		
HOLL	05	1537	1537	1542	S20	E01	.237		5.7	5	SF	3	C		29		
RAMY	05	1646	1647	1651	S17	W51	.776		1.9	5	SF	3	C		16		
HOLL	05	1650	1652	1658	S20	W50	.770		2.0	8	SF	3	C		81		
HOLL	05	1654	1654	1657	S20	E03	.242		5.9	3	SN	3	C		31		
HOLL	05	1733	1735	1805	S16	W56	.825		1.5	32	SF	3	C		31		
HOLL	05	1810	1816	1831	S19	W63	.887		1.0	21	SF	3	C		40		
HOLL	05	1927	1937	1953	S27	E15	.425		6.9	26	SN	3	C		91		
PALE	05	1930	1932	1958	S24	E14	.378		6.9	28	1F	3	C		179		D
PALE	05	1932	1951	2006	S17	W62	.878		1.2	34	SF	3	C		33		
HOLL	05	2013	2017	2022	S17	W01	.166		5.8	9	SF	3	C		42		
MANI	05	2307E	2311	2318	S17	W54	.807		1.9	11D	SN	2	P		80	1.4	
PALE	05	2309	2311	2319	S20	W54	.810		1.9	10	SF	3	C		53		
MANI	06	0211	0218	0249D	S17	W03	.193		5.9	38D	SF	2	P		50	.5	
MANI	06	0311	0313	0321D	S21	W03	.259		5.9	10D	SF	2	P		20	.2	
MANI	06	0334E	0334U	0344D	S25	E07	.340		6.7	10D	SF	2	P		20	.2	
CATA	06	0610	0615	0615U	S24	W03	.309		6.0	5D	SB	2	P	0615	112	1.2	
WEND	06	0633E		0652	S21	W03	.259		6.0	19D	SF		C	0634	106	1.2	
WEND	06	0633E		0717	S24	E04	.312		6.6	44D	SN		C	0633	156	1.8	
WEND	06	0643	0647	0700	S19	W57	.837		2.0	17	SF		C	0647	30	.6	DS
WEND	06	0649	0653	0656	S15	W64	.893		1.5	7	SF		C	0653	41	1.0	
WEND	06	0727	0729	0738	S21	W04	.263		6.0	11	SN		C	0729	34	.4	D
WEND	06	0756	0759	0809	S19	W65	.902		1.5	11	SB		C	0759	80		D
CATA	06	0800	0800	0825	S19	W65	.902		1.5	25	1B	2	C	0800	84	2.1	H
WEND	06	0901	0903	0906	S21	W06	.273		5.9	5	SN		C	0903	94	1.0	
WEND	06	0937	0937	0943	S19	W60	.863		1.9	6	SF		C	0937	53	1.2	
WEND	06	1149	1155	1218	S27	E04	.360		6.9	29	SN		C	1155	168	2.0	
RAMY	06	1153	1157	1217	S27	E04	.360		6.8	24	SF	3	C		74		
WEND	06	1229	1234	1257	S17	W06	.212		6.1	28	SN		C	1234	150	1.6	
RAMY	06	1229	1231	1256	S19	W04	.230		6.2	27	SF	3	C		38		
WEND	06	1336	1344	1349	S15	W68	.922		1.5	13	SF		C	1344	75		
BIGB	06	1609	1611	1629	S14	W69	.928		1.6	20	1F	3	C	1611	170		A
PALE	06	1609	1610	1621	S17	W71	.940		1.4	12	1N	3	C		161		D
HOLL	06	1609	1610	1612D	S19	W69	.922		1.7	3D	1N	3	C		227		
RAMY	06	1811	1811	1831	S17	W72	.945		1.4	20	1N	3	C		138		
RAMY	06	1836	1837	1850	S20	W10	.289		6.0	14	SF	3	C		33		
RAMY	06	1853	1856	1902	S20	W10	.289		6.0	9	SF	3	C		31		
PALE	06	1921	1921	1928	S20	W65	.902		1.9	7	SF	3	C		25		
RAMY	06	1931	1931	1944	S21	W17	.376		5.5	13	SN	3	C		119		
RAMY	06	1946	1951	1955	S20	W10	.289		6.1	7	SF	3	C		31		
BIGB	06	2242	2248	2314	N25	E03	.521		7.2	32	SF	3	C	2248	140	1.4	
PALE	06	2244	2252	2307	N26	E03	.536		7.2	23	SF	3	C		33		
BIGB	07	0120	0125	0145D	N26	E04	.536		7.4	25D	SN	2	P	0125	70	.7	
PALE	07	0120	0121	0144	N25	E03	.520		7.3	24	SF	3	C		48		
RAMY	07	1122	1128	1140	S22	W02	.274		7.3	18	SN	3	C		18		
RAMY	07	1222	1223	1233	S22	W18	.399		6.2	11	SF	3	C		35		
RAMY	07	1316	1317	1321	N23	W08	.503		7.0	5	SF	3	C		24		
RAMY	07	1318	1320	1337	S22	W12	.335		6.7	19	1B	3	C		232		

Hα SOLAR FLARES

MAY 1980

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
HOLL	07	1318	1321	1338	S22	W11	.326		6.7	20	SB	3	C		184		
RAMY	07	1340	1343	1349	N23	W08	.503		7.0	9	SF	3	C		25		
RAMY	07	1357	1403	1457	N23	W08	.503		7.0	60	SF	3	C		33		
RAMY	07	1456	1457	1505	S22	W13	.345		6.6	9	SB	3	C		53		
HOLL	07	1456	1457	1505	S22	W12	.335		6.7	9	SB	3	C		56		
HOLL	07	2047	2048	2054	S22	W16	.376		6.7	7	SN	3	C		31		
HOLL	07	2309	2328	0005	S23	W20	.431		6.5	56	1N	3	C		373		
BIGB	07	2322	2327	2359	S22	W22	.446		6.3	37	SN	2	C	2327	180	2.0	
MANI	07	2331E	2331U	2357D	S22	W21	.434		6.4	260	1N	2	P		200	2.4	F
PALE	07	2339E	2342U	2348D	S23	W22	.455		6.3	90	1F	2	C		218		D
BIGB	07	2346	2348	2356	S16	W90	1.000		1.2	10	1N	2	C	2348	60		
MANI	08	0019E	0026U	0032	N12	E06	.327		8.5	130	SF	2	P		30	.3	
MANI	08	0056E	0056U	0105	S21	W19	.401		6.6	90	SN	2	P		70	.8	
BIGB	08	0056	0057	0108	S21	W18	.389		6.7	12	SB	2	C	0057	60	.7	
PALE	08	0205	0218	0224	S16	E73	.951		13.6	19	SF	3	C		0		D
MANI	08	0419	0420	0424	S21	W20	.413		6.7	5	SF	2	P		48	.5	
MANI	08	0535	0536	0544	N12	E02	.313		8.4	9	SF	2	P		15	.2	
CATA	08	0605E	0605	0635	N14	W02	.346		8.1	300	1N	2	P	0605	253	2.7	
WEND	08	0649	0655	0708	N12	E00	.311		8.3	19	SN		C	0655	38	.4	
BUCA	08	0650		0700	N13	E01	.328		8.4	10	SF		C	0654	75	.8	E
CATA	08	0653	0650	0705D	N12	W01	.312		8.2	150	SB	2	P	0650	56	.6	
WEND	08	0801	0806	0824	N26	W13	.567		7.4	23	SF		C	0806	25	.3	
MANI	08	0905E	0905U	0915D	N11	E01	.295		8.5	100	SF	1	V		60	.6	F
WEND	08	0954	0958	1017	N25	W19	.591		7.0	23	SN		C	0958	125	1.5	
CATA	08	1035	1035	1055	S12	W66	.909		3.5	20	1N	2	C	1035	84		
WEND	08	1036E		1047	S11	W67	.916		3.4	110	SF		C	1037	34		
RAMY	08	1127	1129	1145	S22	W24	.471		6.7	18	SB	3	C		68		D
WEND	08	1128E	1128	1137	S20	W24	.456		6.7	90	SN		C	1128	82	1.0	
RAMY	08	1130	1132	1142	S13	W68	.922		3.4	12	SN	3	C		14		
RAMY	08	1210	1210	1216	S22	W24	.471		6.7	6	SF	3	C		27		
RAMY	08	1341	1345	1442	S22	W25	.483		6.7	61	SB	3	C		109		
HOLL	08	1423	1449	1506	N12	W03	.315		8.4	43	SF	3	C		37		
RAMY	08	1435	1440	1441	S16	E64	.894		13.4	6	SF	3	C		14		
RAMY	08	1936	1936	1950	S22	W29	.533		6.6	14	SB	3	C		153		D
HOLL	08	2352	0006	0025	S22	W30	.545		6.7	33	SN	3	C		89		
HOLL	09	0106	0107	0113	S19	E73	.951		14.5	7	SF	3	C		0		
PALE	09	0137	0138	0141	N12	W08	.338		8.5	4	SF	2	C		26		D
CATA	09	0535	0540	0630	S22	W33	.583		6.8	25	SB	2	C	0540	112	1.4	
MANI	09	0709	0713	0719	S20	W34	.585		6.7	10	SN	2	P		150	2.0	
BUCA	09	0710		0730	S21	W35	.602		6.7	20	SN		C	0715	161	2.0	
CATA	09	0710	0715	0725D	S21	W35	.602		6.7	150	1B	2	P	0715	197	2.6	
ATHN	09	0711E	0714	0748	S21	W32	.565		6.9	370	1B	3	C		190		
CATA	09	0715	0715	0725D	S17	W42	.675		6.2	100	1N	2	P	0715	197	2.8	
RAMY	09	1119	1120	1126	S16	W66	.995		3.0	7	SF	3	C		0		
HOLL	09	1519	1523	1544	S19	E51	.780		13.5	25	SN	3	C		67		
RAMY	09	1522	1526	1539	S20	E52	.791		13.5	17	SN	3	C		63		
RAMY	09	1551	1551	1601	S19	E53	.800		13.6	10	SF	3	C		38		
HOLL	09	1944	1949	2005	S31	E28	.591		11.9	21	SF	3	C		58		
RAMY	09	2015E	2100U	2141D	S31	E31	.619		12.2	860	1N	3	C		352		
RAMY	09	2015	2048	2050D	S31	E31	.619		12.2	350	1F	3	C		222		
PALE	09	2022	2054	2056D	S30	E31	.612		12.2	340	1N	3	C		254		
HOLL	09	2022	2058	2129	S30	E34	.642		12.4	67	1N	3	C		234		
HOLL	09	2109	2113	2122	N23	W22	.590		8.2	13	SF	3	C		41		
HOLL	09	2352	0006	0025	S22	W38	.546		7.7	33	SN	3	C		89		
MANI	10	0521E	0524U	0525D	S16	E40	.649		13.2	40	SN	1	V		60	.8	
ISTA	10	0745E		0754	S14	E38	.619		13.2	90	SF						BE
ISTA	10	0810		0823	S13	E42	.669		13.5	13	SF						D
MANI	10	0814E	0816U	0821D	S16	E40	.649		13.3	70	SF	1	V		30	.4	
CATA	10	1000	1000	1015	S14	E34	.565		13.0	15	SB	2	C	1000	140	1.8	
RAMY	10	1117	1133	1134D	S13	E36	.590		13.2	170	1B	3	C		212		D
ATHN	10	1132	1134	1154	S13	E36	.590		13.2	22	SB	3	C		127		D
CATA	10	1135	1140	1150	S14	E36	.592		13.2	15	SB	2	C	1140	140	1.8	
ATHN	10	1241	1242	1307	S16	E33	.557		13.0	26	SB	3	C		32		D
RAMY	10	1320	1321	1331	S16	E32	.543		13.0	11	SN	3	C		74		
HOLL	10	1353	1354	1407	S12	E34	.560		13.1	14	SN	2	C		42		
RAMY	10	1503	1507	1530	S15	E31	.526		13.0	27	SN	3	C		39		
RAMY	10	1757	1758	1804	S15	E29	.498		12.9	7	SN	3	C		118		
HOLL	10	1757	1758	1804	S14	E30	.509		13.0	7	SN	3	C		91		
HOLL	10	1952	1953	2005	S12	E31	.518		13.2	13	SB	3	C		118		D

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
PALE	10	1954E	1955U	2005	S13	E31	.520		13.2	11D	SN	2	C		124		
RAMY	10	1956E	1957	2004	S13	E31	.520		13.2	8D	SN	3	C		90		
HOLL	10	2004	2020	2055	S25	W57	.845		6.6	51	1N	3	C		263		
RAMY	10	2005	2017	2043D	S25	W58	.853		6.5	38D	2N	3	C		464		
RAMY	10	2005	2014	2016D	S23	W61	.875		6.3	11D	1N	3	C		269		
PALE	10	2007	2021	2034	S26	W58	.854		6.5	27	SF	3	C		77		D
RAMY	10	2021	2023	2029	S15	E28	.484		12.9	8	SB	3	C		68		
PALE	10	2022	2024	2030	S14	E29	.494		13.0	8	SN	3	C		44		
HOLL	10	2022	2024	2030	S14	E29	.494		13.0	8	SN	3	C		52		
MANI	11	0059	0100	0107	S13	E28	.477		13.1	8	SN	2	P		80	.9	
CATA	11	0515	0525	0530	S14	E25	.437		13.1	15	SN	2	C	0525	68	.9	
WEND	11	0642		0651	S14	E22	.392		12.9	9	SN		C	0642	25	.3	
CATA	11	0755	0755	0800	S14	E21	.378		12.9	5	SB	2	C	0755	34	.4	
WEND	11	0916	0918	0924	S12	W68	.923		6.3	8	SN		C	0918	44		
WEND	11	0926	0926	0940	S14	E20	.363		12.9	14	SN		C	0926	31	.4	
WEND	11	1047	1049	1112	S14	E19	.348		12.9	25	SN		C	1049	31	.4	
RAMY	11	1056	1059	1108	S15	E19	.354		12.9	12	SN	3	C		46		
WEND	11	1145	1158	1206	S15	E25	.441		13.4	21	SN		C	1158	37	.4	E
RAMY	11	1149	1149	1206	S16	E25	.446		13.4	17	SN	3	C		38		
WEND	11	1211	1213	1227	S14	E18	.333		12.9	16	SN		C	1213	19	.2	
RAMY	11	1253	1255	1313	S21	W64	.896		6.7	20	1N	3	C		0		
WEND	11	1254	1254	1309	S20	W65	.903		6.7	15	SN		C	1254	38		
RAMY	11	1259	1303	1311	S16	E24	.432		13.3	12	SF	3	C		27		
RAMY	11	1315	1316	1319	S14	E18	.333		12.9	4	SN	3	C		34		
HUAN	11	1346E		1349D	S15	E17	.326		12.8	3D	SN	1	P	1347	40	.4	
RAMY	11	1401	1403	1412	S16	E24	.432		13.4	11	SN	3	C		52		
RAMY	11	1459	1500	150A	S13	E17	.312		12.9	9	SF	3	C		67		
RAMY	11	1512	1513	1534	S15	E21	.383		13.2	22	SB	3	C		255		D
BIGB	11	1655	1656	1704	S15	E16	.311		12.9	9	SB	1	C	1656	100	1.1	
RAMY	11	1655	1656	1704	S15	E16	.311		12.9	9	SB	3	C		173		
PALE	11	1827	1826	1837	S15	E23	.412		13.5	10	SN	3	C		31		D
BIGB	11	1852	1853	1859D	S15	E16	.311		13.0	7D	SB	1	P	1853	70	.8	
PALE	11	1854	1854	1904	S14	E15	.289		12.9	10	SN	3	C		110		
PALE	11	2108	2109	2120	S23	W69	.930		6.7	12	SN	3	C		25		
PALE	11	2130	2157	2202	S22	W74	.956		6.3	32	SF	3	C		45		
PALE	11	2342	2343	0006D	S24	W71	.941		6.7	24D	1B	3	C		113		
PALE	12	0054	0057	0106	S24	W73	.952		6.6	12	SF	3	C		0		
CATA	12	0555	0555	0600	S13	E13	.253		13.2	5	SN	2	C	0555	56	.6	
CATA	12	0600	0600	0610	S14	W09	.209		11.6	10	SB	2	C	0600	56	.6	
WEND	12	0710	0714	0748	S21	W85	.993		5.9	38	SF		C	0714	19		
WEND	12	0956	0956	1008	S14	E06	.175		12.9	12	SN		C	0956	50	.5	
CATA	12	1000E	1000	1005	S14	W37	.185		11.9	5D	SN	1	P	1000	56	.6	
WEND	12	1013	1014	1111	S27	W06	.373		12.0	58	SN		C	1014	113	1.3	E
HOLL	12	1327	1328	1338	S13	E09	.198		13.2	11	SF	3	C		25		
WEND	12	1337	1340	1348	S20	W86	.995		6.1	11	SF		C	1340	19		
HOLL	12	1338	1340	1345	S23	W75	.951		6.9	7	SN	3	C		0		
RAMY	12	1340	1340	1348	S23	W81	.983		6.5	8	SF	3	C		0		
WEND	12	1420	1425	1435	S14	E08	.196		13.2	15	SN		C	1425	25	.3	
RAMY	12	1422	1424	1430	S13	E09	.198		13.3	8	SB	3	C		48		
HOLL	12	1422	1424	1434	S13	E09	.198		13.3	12	SB	3	C		57		
HOLL	12	1528	1530	1533	S12	E09	.187		13.3	5	SN	3	C		33		
HOLL	12	1626	1630	1635	S13	E08	.185		13.3	9	SN	3	C		40		
RAMY	12	1629	1629	1634	S13	E07	.173		13.2	5	SN	3	C		21		
HOLL	12	1736	1739	1746	S13	E09	.198		13.4	10	SB	3	C		38		
BIGB	12	1827	1834	1852	S24	W90	.999		6.0	25	1B	2	C	1834	80		
HOLL	12	1827	1832	1839	S26	W79	.977		6.8	12	SN	3	C		0		
BIGB	12	1915	1921	1927	S21	W90	.999		6.1	12	1N	3	C	1921	90		A
HOLL	12	1916	1918	1922	S24	W85	.993		6.4	6	SF	3	C		0		
PALE	12	2342	2343	0006D	S24	W71	.941		7.7	24D	1B	3	C		113		
PALE	13	0211	0212	0222	S07	E62	.880		17.7	11	SF	3	C		62		
WEND	13	0930		1014	S34	W02	.474		13.2	44	SF		C	0941	125	1.6	
WEND	13	0932		0957	S26	E01	.346		13.5	25	SF		C	0941	81	.9	
HOLL	13	1756	1759	1815	S07	E53	.795		17.7	19	SF	3	C		34		
CATA	14	1100	1100	1125	S13	E90	1.000		21.2	25	1N	1	C	1100	56		
CATA	14	1140E	1150	1150D	S16	W21	.391		12.9	10D	1N	2	P	1150	281	3.2	
BOUL	14	1254	1256	1316	S12	E80	.982		20.5	22	1B	3	C		150		D
WEND	14	1258	1258	1323	S12	E77	.971		20.3	25	1N		C	1258	106		
WEND	14	1337		1406	S09	E45	.704		17.9	29	SF		C	1345	75	1.1	E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMR. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
WEND	14	1357		1426D	S15	W13	.272		13.6	29D	SF		C	1404	88	1.0	E
HOLL	14	1507	1520	1548	S13	W22	.369		13.0	41	SN	3	C		127		
PALE	14	1747	1751	1806	S07	E39	.626		17.7	19	SN	4	C		93		D
HUAN	14	1745		1753	S08	E40	.640		17.7	5	SF	1	C				
HOLL	14	1749E	1751	1800D	S08	E40	.640		17.7	11D	SF	3	C		87		
PALE	14	1854	1856	1907	S07	E39	.626		17.7	13	SF	4	C		42		
PALE	14	1905	1921	2043D	S18	W21	.485		13.2	98D	2B	3	C		523		
HUAN	14	1922E		1935	S15	W25	.442		12.9	13D	SN	1	P	1922	60	.7	
PALE	14	2033E	2034U	2043D	S07	E40	.648		17.9	10D	SF	3	C		43		
HOLL	14	2345	2348	2350	S07	E38	.613		17.8	5	SF	3	C		23		
HOLL	15	0019	0023	0028	S25	W04	.338		14.7	9	SF	3	C		22		
HOLL	15	0102	0104	0128	S14	W29	.496		12.9	18	1B	3	C		263		
HOLL	15	0102	0104	0105D	S16	W23	.420		13.3	30	1B	3	C		263		
WEND	15	0705	0708	0724	S11	W33	.546		12.8	19	SN		C	0708	56	.7	D
WEND	15	0727	0729	0741	S13	W34	.564		12.8	14	SN		C	0729	100	1.3	H
HOLL	15	1250E	1252U	1316	S13	W34	.564		13.0	26D	SB	3	C		165		
HOLL	15	1534	1534	1540	S12	E63	.887		20.4	6	SF	3	C		15		
BIGB	15	1542	1550	1621	S12	E54	.806		19.7	39	1N	2	C	1550	130	2.3	
HOLL	15	1544	1549U	1549D	S10	E54	.805		19.7	50	1N	3	C		147		
HOLL	15	1544	1553	1615	S11	E53	.795		19.6	31	1N	3	C		165		
HOLL	15	1620E	1622	1640	S30	E90	.999		22.4	20D	SN	3	C		0		
HOLL	15	1622	1625	1715	N16	E58	.809		19.4	53	SN	3	C		41		
BIGB	15	1625	1634	1717	N15	E53	.833		19.7	52	SF	2	C	1634	60	1.0	
BIGB	15	1626	1629	1652	S35	E90	.998		22.4	26	1B	2	C	1629	60		
PALE	15	2002E	2002U	2019D	S07	E25	.421		17.7	17D	SF	3	C		40		D
PALE	15	2053E	2053U	2123	S12	E65	.902		20.7	30D	1B	2	C		182		D
BIGB	15	2355	2357	0031	S09	E22	.376		17.6	36	SB	1	C	2357	100	1.1	
BIGB	16	0007	0011	0028	S16	E65	.902		20.9	21	1N	2	C	0011	140		
BIGB	16	0104	0108	0126D	S13	W90	1.000		9.3	22D	SN	2	P	0108	40		
PALE	16	0119	0125	0135	S08	E28	.342		17.6	16	SF	3	C		47		
PALE	16	0123	0125	0210	S11	E61	.871		20.6	47	SF	3	C		33		
PALE	16	0248	0251	0318	S07	E21	.357		17.7	30	SF	3	C		34		
PALE	16	0306	0306	0329	S10	E52	.784		20.0	23	SF	3	C		42		
HOLL	16	1338E	1341	1450	N16	E36	.664		19.3	72D	SN	3	C		151		
RAMY	16	1343E	1348U	1410	N16	E38	.686		19.4	27D	SN	3	C		126		
BIGB	16	1431	1432	1437	S30	E90	.999		23.4	6	1B	2	C	1432	60		
HOLL	16	1521	1538	1541	N17	E36	.671		19.3	20	SF	3	C		50		
RAMY	16	1618	1631	1638	N16	E37	.675		19.5	20	SF	3	C		52		
BIGB	16	1800	1802	1815	S22	W05	.295		16.4	15	SN	3	C	1802	60	.6	
HOLL	16	1800	1801	1811	S21	W03	.271		16.5	11	SN	3	C		79		
BIGB	16	1816	1825	1903	S28	E30	.999		23.5	47	1B	3	C	1825	60		
HOLL	16	1904	1904	1909	S12	E52	.785		20.7	5	SF	3	C		18		
HOLL	16	1928	1931	1935	N17	E34	.649		19.4	7	SF	3	C		59		
HOLL	16	1929	1932	1937	S18	W44	.703		13.5	8	SF	3	C		21		
BIGB	16	1937	1948	2009	S28	E90	.999		23.6	32	1B	3	C	1948	120		
HOLL	16	2028E	2031U	2034D	N17	E34	.649		19.4	6D	SF	3	C		70		
HOLL	16	2207	2218	2244	N17	E34	.649		19.5	37	SN	3	C		49		
HOLL	16	2208	2212	2214D	S12	E50	.763		20.7	6D	SB	3	C		60		D
HOLL	16	2208	2234	2336	S11	E43	.680		20.1	88	1B	3	C		397		
HOLL	16	2208	2211U	2211	S11	E47	.729		20.4	3	SB	3	C		53		
BIGB	16	2223E	2223U	2259	N15	E36	.658		19.6	36D	SN	3	P	2223	130	1.7	
BIGB	16	2229	2233	0003	S14	E48	.743		20.5	96	1B	3	C	2233	230	3.5	
MANI	16	2233E	2235U	2237D	N21	E53	.851		20.9	4D	SB	1	V		90	1.7	
BIGB	16	2240	2244	2254	S28	E90	.999		23.7	14	1B	3	C	2244	100		
BIGB	16	2315	2324	0001	S15	E50	.766		20.7	46	1F	2	C	2324	150	2.4	
HOLL	16	2315	2322	2333	N16	E31	.609		19.3	18	SN	3	C		27		
BIGB	17	0015	0019	0042	S25	E90	.999		23.8	27	1B	3	C	0019	80		
HOLL	17	0049	0049	0057	S12	E47	.730		20.6	8	SF	3	C		19		
MANI	17	0302E	0303U	0304D	N15	E33	.624		19.6	20	SN	1	V		20	.3	
MANI	17	0443E	0447U	0432D	N09	E31	.599		21.0	9D	SN	1	V		30	.5	
WEND	17	0537E		0726	S14	E43	.684		20.5	109D	1F		C	0537	194	2.8	
WEND	17	0608E		0623	N15	E29	.578		19.4	15D	SF		C	0615	88	1.1	
WEND	17	0608E		0629	S16	W51	.778		13.4	21D	1N		C	0608	160	2.7	
WEND	17	0720	0735	0818	N15	E29	.578		19.5	58	1B		C	0735	370	4.5	
ATHN	17	0734	0741U	0754	N15	E28	.566		19.4	20	SB	3	C		240		
ISTA	17	0737E		0804	N16	E30	.597		19.6	27D	1B						E
WEND	17	0806	0808	0818	S19	W52	.792		13.4	12	SF		C	0808	68	1.2	E
WEND	17	0856E		0915D	S14	E42	.672		20.5	19D	SF		C	0900	125	1.8	
WEND	17	0904	0908	0915	N15	E28	.566		19.5	11	SF		C	0906	132	1.6	

Hα SOLAR FLARES

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LON. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
WEND	17	1007E	1015	1114	N26	E41	.774		20.5	67D	2B		C	1015	640	9.7	IU
ATHN	17	1015E	1018	1030D	N17	E29	.594		19.6	15D	SB	3	C		127		
RAMY	17	1024E	1026U	1123	N26	E41	.774		20.5	59D	2N	3	C		535		D
WEND	17	1050E	1055	1114D	S17	W54	.809		13.4	24D	2N		C	1055	360	6.6	
RAMY	17	1051	1053	1104	S16	W56	.828		13.3	13	SN	3	C		26		
RAMY	17	1324	1327	1331	N16	E25	.541		19.4	7	SN	3	C		38		
BIGB	17	1507	1515	1535	S25	E90	.999		24.4	28	1B	3	C	1515	80		
HOLL	17	1509	1513	1516	N15	E23	.510		19.4	7	SF	3	C		31		
RAMY	17	1733	1734	1738D	N24	E52	.853		21.6	5D	SF	3	C		12		
HOLL	17	2022E	2025	2045	S16	W61	.872		13.3	23D	SF	2	C		38		
PALE	17	2135E	2137U	2214D	N16	E21	.498		19.5	39D	SF	3	C		58		
RAMY	17	2136	2137	2211D	N16	E20	.488		19.4	35D	SF	3	C		56		
HOLL	17	2138E	2158U	2158D	N17	E22	.519		19.6	20D	SF	2	C		32		
HOLL	18	0006E	0008U	0012	S14	E35	.581		20.6	6D	SF	2	C		25		
BIGB	18	0024	0026	0046D	S13	E21	.376		19.6	24D	SN	3	P	0026	80	.9	
HOLL	18	0031E	0038U	0040D	S13	E21	.376		19.6	9D	SF	2	C		88		
MANI	18	0116E	0116U	0118D	N16	E19	.477		19.5	2D	SF	2	P		100	1.1	F
HOLL	18	0118E	0120U	0129D	N17	E16	.460		19.3	11D	1B	2	C		320		
ATHN	18	0745E	0749	0815	N34	E60	.933		22.8	30D	SB	3	C		80		
MANI	18	0818	0820	0830D	S14	E32	.540		20.7	12D	SF	2	P		60	.7	F
ATHN	18	0820E	0821	0853	S08	E31	.513		20.7	33D	SB	3	C		80		
CATA	18	1040	1045	1045D	S13	E29	.494		20.6	5D	SF	2	P	1045	112	1.3	
RAMY	18	1254	1257	1305	S21	E77	.970		24.3	11	SN	3	C		0		
RAMY	18	1345	1354	1404	S22	E78	.974		24.4	19	SF	3	C		0		
BIGB	18	1446	1454	1511	S09	E90	1.000		25.4	25	1B	3	C	1454	50		
BIGB	18	1618	1619	1653	N23	E39	.737		21.6	35	SN	3	C	1619	60	.8	
HOLL	18	1624E	1624U	1647	N24	E37	.725		21.5	23D	SN	3	C		69		
HOLL	18	1847	1849	1857	N17	E59	.886		23.2	10	SF	3	C		29		
HOLL	18	1856	1858	1907	S35	E53	.839		22.8	11	SF	3	C		17		
PALE	18	1903	1908	1922	S23	E74	.957		24.3	19	SN	3	C		0		
PALE	18	1903	1905	1916	S18	W73	.952		13.3	13	SF	3	C		0		
HOLL	18	1903	1903	1917	S18	W73	.952		13.3	14	SN	3	C		0		
HOLL	18	1903	1907	1918	S23	E73	.952		24.3	15	SN	3	C		0		
HOLL	18	1924	1937	2009	N17	E58	.879		23.2	45	SN	3	C		43		
HOLL	18	2020	2021	2026	N13	E00	.315		18.8	6	SN	3	C		40		
HOLL	18	2021	2024	2028	N17	E57	.871		23.1	7	SF	3	C		29		
HOLL	18	2041	2045	2051	S14	E25	.440		20.7	10	SF	3	C		52		
PALE	18	2343	2348	2359	N17	E57	.871		23.3	16	SF	3	C		18		
PALE	19	0045	0045	0051	S15	E22	.402		20.7	6	SF	3	C		59		D
ISTA	19	0622	0628	0644	S09	W21	.361		17.7	22	1N						V
HOLL	19	1329	1329	1338	S29	E44	.741		22.9	9	SN	3	C		29		
HOLL	19	1411	1412	1426	S05	E73	.955		25.1	15	SF	3	C		0		
RAMY	19	1418	1419	1428	S13	E16	.302		20.8	10	SF	3	C		34		
HOLL	19	1420	1422	1428	S12	E14	.265		20.6	8	SF	3	C		36		
HOLL	19	1430	1431	1436	S29	E44	.741		22.9	6	SF	3	C		49		
RAMY	19	1503	1537	1548	S05	E76	.969		25.3	45	SF	3	C		31		
HOLL	19	1517	1522	1538	S19	E84	.992		25.9	21	SF	3	C		0		
HOLL	19	1552	1554	1605	N14	W02	.332		19.5	13	SF	3	C		29		
HOLL	19	1557	1603	1606	S23	W45	.729		16.3	9	SN	3	C		30		
BIGB	19	1609	1612	1628	N13	E48	.778		23.3	19	1N	3	C	1612	170	2.6	
HOLL	19	1609	1610	1634	N15	E47	.775		23.2	25	SN	3	C		94		
CATA	20	0545	0545	0550	N09	E65	.916		25.1	5	SN	2	C	0545	28	.7	
CATA	20	0555	0555	0600D	S14	W01	.154		20.2	5D	SN	2	P	0555	84	.9	
RAMY	20	1404	1407	1415	S20	E55	.994		27.0	11	SF	3	C		0		
RAMY	20	1429	1445	1452	S16	E90	1.000		27.4	23	SF	3	C		0		
RAMY	20	1710	1711	1718	S10	E33	.991		26.9	8	SN	3	C		0		
HOLL	20	1719	1720	1724	S19	E77	.970		26.5	5	SF	3	C		0		
HOLL	20	1743	1744	1806	S07	E64	.896		25.5	23	SF	3	C		32		
HUAN	21	1446	1450	1507	S22	E64	.899		26.4	21	SN	1	C	1450	70	1.6	
HOLL	21	1446	1450	1513	S21	E63	.891		26.3	27	SB	3	C		75		
HOLL	21	1516	1520	1532	S18	E63	.889		26.4	16	SF	3	C		37		
HOLL	21	1619	1635	1659	S11	E61	.871		26.3	40	SF	3	C		36		
HOLL	21	1641	1648	1705	S18	E63	.889		26.4	24	SF	3	C		22		
HOLL	21	1802	1807	1838	S16	W15	.314		20.6	36	SN	3	C		102		
HUAN	21	1803E		1827	S16	W14	.301		20.7	24D	SN	1	P	1808	80	.9	E
PALE	21	1804	1805	1820	S16	W15	.314		20.6	16	SF	3	C		48		D
HUAN	21	1951		1959	N15	E15	.423		23.0	8	SF	1	C				D
BOUL	21	2051	2100	2126D	S14	W15	.296		20.7	35D	2B	4	C		550		

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Mil. of Dis	CORR. AREA Sq. Deg.	
PALE	21	2058E	2100U	2235D	S13	W15	.288		20.7	97D	3B	3	C		1291		
PALE	21	2058E	2058U	2058D	S14	W06	.185		21.4		SF	3	C		113		D
HOLL	21	2059E	2059U	2100D	S14	W15	.296		20.7	1D	1B	3	C		450		D
CATA	22	0600	0605	0620	S22	E55	.827		26.4	20	1B	2	C	0605	169	3.2	
ATHN	22	0654E	0656U	0725	S27	W25	.536		20.4	310	SB	3	C		95		
CATA	22	0700E	0700	0720	S25	E33	.608		24.8	20D	SN	2	P	0700	140	1.9	
CATA	22	0825E	0840	1005	N11	E77	.979		28.1	100D	1F	2	P	0840	112		
CATA	22	1030	1030	1105D	N06	E33	.570		24.9	35D	SN	2	P	1030	28	.3	
CATA	22	1125	1125	1125D	S21	E69	.931		27.7		1N	1	P	1125	84		
HUAN	22	1404		1417	N08	E75	.970		28.2	13	SF	1	C	1410	25		D
HOLL	22	1411	1417	1458	S14	W23	.412		20.9	47	SN	3	C		117		
HOLL	22	1416	1423	1437	S07	E36	.586		25.3	21	SF	3	C		37		
HUAN	22	1417		1442	S18	W21	.411		21.8	25	SF	1	C	1422	85	1.8	E
BIGB	22	1417	1420	1443	S18	W21	.411		21.8	26	SF	3	C	1420	80	.9	
RAMY	22	1417	1421	1440	S07	E40	.640		25.8	23	SF	3	C		46		
RAMY	22	1417	1418	1446	S18	W20	.338		21.1	29	SN	3	C		58		
RAMY	22	1439	1439	1447	S32	E03	.456		22.8	8	SF	3	C		32		
HUAN	22	1513		1527	N15	E12	.396		23.5	14	SF	1	C				E
BIGB	22	1515	1524	1543	N18	E12	.437		23.5	28	SF	3	C	1524	110	1.2	
HUAN	22	1517		1537	S18	W21	.411		21.1	20	SF	1	C				E
RAMY	22	1519	1519	1531	S13	W24	.422		20.8	12	SF	3	C		22		
HUAN	22	1529		1540	N09	E75	.971		28.3	11	SF	1	C	1531	25		D
BIGB	22	1711	1712	1729	N18	E12	.437		23.6	18	SN	3	C	1712	70	.7	
BIGB	22	2054	2108	2340	N16	E86	.372		23.3	166	2B	3	C	2108	520	5.4	
PALE	22	2121E	2131U	2145D	N10	E70	.947		28.1	24D	SF	3	C		18		D
PALE	22	2121E	2121U	2247D	N16	E04	.365		23.2	86D	1N	3	C		457		
ISTA	23	0615		0624	S20	E43	.700		26.5	9							
ISTA	23	0623		0640	S19	E60	.867		27.8	17							
HOLL	23	1339	1359	1434	S21	E38	.645		26.4	55	SN	3	C		118		
HUAN	23	1342		1356	N15	W04	.348		23.3	14	SF	1	C	1351	40	.4	
HUAN	23	1404		1428	S23	E37	.643		26.4	24	SF	1	C	1410	120	.6	E
HUAN	23	1441	1446	1451	S21	E37	.634		26.4	10	SF	1	C	1446	80	1.1	E
HOLL	23	1442	1443	1458	S21	E37	.634		26.4	16	SN	3	C		22		
HUAN	23	1451	1452	1457	S28	E12	.434		24.5	6	SF	1	C	1452	70	.8	
HUAN	23	1626	1631	1641	S19	W35	.600		21.1	15	SF	1	C	1631	85	1.1	E
RAMY	23	1704	1708	1710	S20	E37	.629		26.5	6	SF	3	C		21		
HUAN	23	1819		1830	S15	W36	.613		21.1	11	SF	1	C	1823	60	.8	E
HOLL	23	1821E	1824	1836	S21	E36	.622		26.5	15D	SF	3	C		22		
HOLL	23	1821E	1826	1841	S07	E19	.326		25.2	20D	SF	3	C		67		
HOLL	23	2029	2033	2117	S07	E16	.276		25.1	48	SN	3	C		120		
HUAN	23	2030	2034	2054D	S06	E16	.275		25.1	24D	SN	2	P	2034	90	1.0	
HOLL	23	2133	2146	2146D	S06	E15	.258		25.0	13D	1B	3	C		250		
RAMY	23	2137	2137	2142	S17	E36	.605		26.6	5	SF	3	C		23		
RAMY	23	2143	2146	2148D	S06	E16	.275		25.1	5D	1B	3	C		216		D
MANI	23	2259	2303	2314	S21	E32	.573		26.4	15	SF	2	P		25	.3	
HOLL	23	2259	2306	2329	S20	E33	.580		26.4	30	SF	3	C		22		
MANI	24	0019	0020	0130	S24	E31	.580		26.3	71	SN	2	P		80	1.1	
HOLL	24	0019	0021	0035	S23	E33	.597		26.5	16	SN	3	C		105		
MANI	24	0046	0051	0125	N17	W06	.385		23.6	39	SN	2	P		180	2.0	F
HOLL	24	0047	0052	0054D	N17	W08	.395		23.4	7D	1N	3	C		289		
CATA	24	0645E	0650	0655D	S15	W58	.847		19.9	10D	1N	2	P	0650	169	3.4	
CATA	24	0645E	0845	0855	N06	E13	.291		25.3	10D	SN	2	P	0845	84	.9	
RAMY	24	1103	1105	1111	S12	E26	.449		26.4	3	SF	3	C		61		
RAMY	24	1111	1137	1146	S21	E26	.499		26.4	37	SN	3	C		89		
RAMY	24	1112	1113	1123	S06	E12	.208		25.4	11	SN	3	C		51		
RAMY	24	1222	1224	1229	N11	E51	.800		28.3	7	SF	3	C		18		
RAMY	24	1320	1320	1330	S16	W47	.736		21.0	10	SF	3	C		17		
HUAN	24	1355	1356	1407	N10	E50	.788		28.3	12	SN	1	C	1358	65	1.0	E
HOLL	24	1357	1358	1414	N12	E49	.783		28.3	17	SN	2	C		79		
HOLL	24	1423	1426	1437	S16	W50	.769		20.8	14	SF	2	C		28		
RAMY	24	1426	1427	1436	S13	W52	.787		20.7	10	SF	3	C		30		
HUAN	24	1440	1445	1517	N10	E50	.788		28.4	37	SF	1	C	1445	40	.7	
RAMY	24	1444	1447	1450	N12	E50	.793		28.4	6	SF	3	C		18		
HOLL	24	1450	1452	1546	N18	W21	.492		23.0	56	SF	3	C		35		
HUAN	24	1527		1544	S07	E07	.127		25.2	17	SF	1	C				
RAMY	24	1531	1532	1534	S06	E90	1.000		1.4	3	SF	3	C		0		
HUAN	24	1536		1557	N11	E48	.770		28.3	21	SF	1	C				E
HOLL	24	1633	1638	1657	N10	E46	.745		28.1	24	SN	3	C		43		
HUAN	24	1634		1648	N11	E48	.770		28.3	14	SF	1	C				E

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MAY 1980

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
PAMY	24	1636	1639	1652	N11	E49	.780		28.4	16	SF	3	C		27		
HUAN	24	1740		1746D	N11	E48	.770		28.3	6D	SF	1	P				
HOLL	24	1744	1745	1750	N12	E45	.741		28.1	6	SF	3	C		30		
HOLL	24	1824	1825	1838	N12	E45	.741		28.1	14	SF	3	C		33		
HOLL	24	1837	1845	1849	S21	E21	.438		26.4	12	SF	3	C		36		
HOLL	24	1940	1940	1947	S24	W54	.822		28.8	7	SF	3	C		20		
HOLL	24	1951	2004	2006	N15	W23	.503		23.1	15	SF	3	C		32		
HUAN	24	2005		2017D	N11	E45	.737		28.2	12D	SF	1	P				E
PALE	24	2344	2345	2349	S14	E17	.327		26.3	5	SF	3	C		31		
PALE	25	0128E	0137U	0205D	S16	W61	.873		20.5	37D	1N	2	C		323		D
CATA	25	0550	0600	0625D	N07	W06	.228		24.8	35D	SB	2	P	0600	56	.6	
WEND	25	0553E		0611D	S07	E06	.111		25.7	18D	SN		C	0554	56	.6	
WEND	25	0553E		0611D	N10	E39	.663		28.2	18D	SF		C	0554	94	1.3	
RAMY	25	1329	1331	1345	S13	E82	.988		1.7	16	SF	3	C		0		
RAMY	25	1334	1338	1342	S15	E08	.223		26.2	8	SF	3	C		60		
RAMY	25	1337	1338	1341	S12	E05	.152		25.9	4	SN	3	C		35		
RAMY	25	1341	1341	1358D	S08	E02	.066		25.7	17D	SF	3	C		23		
HOLL	25	1410	1413	1436	S19	E13	.327		26.6	26	SN	3	C		186		
HUAN	25	1411	1415	1420	S18	E14	.326		26.6	9	SN	1	C	1415	125	1.4	E
RAMY	25	1414	1415	1431	S19	E13	.327		26.6	17	SN	3	C		147		
RAMY	25	1423	1423	1437	S15	E33	.560		28.1	14	SF	3	C		34		
HOLL	25	1423	1423	1433	S15	E32	.546		28.0	10	SF	3	C		27		
WEND	25	1429E		1434D	S15	E31	.532		27.9	5D	SN		C	1429	66	.8	E
HUAN	25	1544	1548	1551	S10	W63	.888		20.9	7	SF	1	C	1548	40		
HOLL	25	1544	1549	1557	S12	W65	.903		20.8	13	SF	3	C		48		
HOLL	25	1544	1551	1610	S23	E12	.368		26.6	26	SN	3	C		63		
HUAN	25	1550	1551	1554	N16	W28	.568		23.6	4	SN	1	C	1551	35	.4	
HOLL	25	1551	1551	1557	N16	W30	.591		23.4	6	SN	3	C		53		
RAMY	25	1600	1607	1619	N24	W29	.647		23.5	19	SF	3	C		27		
WEND	25	1657	1700	1708D	S34	W37	.708		22.9	11D	SF		C	1700	63	1.0	
HOLL	25	1727	1730	1747	S10	E71	.943		1.1	20	SN	2	C		27		
HOLL	25	1846	1849	1858	S21	E08	.309		26.4	10	SF	3	C		90		
HOLL	25	1848	1849	1855	S15	W01	.178		25.7	7	SF	3	C		38		
RAMY	25	1919	1927	1940	S15	E30	.518		28.1	21	SF	3	C		30		
HOLL	25	1924	1926	1930D	S15	E29	.504		28.0	6D	SF	2	C		32		
HOLL	25	1941	1942	1952	S20	E07	.267		26.3	11	SF	3	C		62		
PALE	25	2107E	2125U	2131D	S13	E72	.948		1.3	24D	SF	1	C		30		
HOLL	26	0002E	0002U	0046	S14	E01	.163		26.1	44D	SF	2	C		47		
HOLL	26	0002E	0002U	0018	S18	E07	.259		26.5	16D	SF	2	C		31		
HOLL	26	0003	0026	0031	N15	W39	.687		23.1	28	SF	2	C		20		
HOLL	26	0101	0102	0119	S13	E02	.149		26.2	18	SF	2	C		26		
WEND	26	0633E		0646	S22	W20	.438		24.8	13D	SN		C	0633	44	.5	D
WEND	26	0633E		0709	S19	W27	.500		24.2	36D	1F		C	0642	240	2.9	
WEND	26	0736	073e	0744	S08	W03	.078		26.1	8	SF		C	0736	50	.5	D
WEND	26	0753	0755	0759	S14	E20	.371		27.8	6	SF		C	0755	75	.8	D
WEND	26	0801		0823	S15	E65	.904		1.2	22	1F		C	0804	130		
WEND	26	0810		0827	N18	W44	.754		23.0	17	SN		C	0814	56	.9	
WEND	26	1135		1136D	S08	E55	.816		30.6	3D	SN		C	1138	106	1.9	
WEND	26	1240E		1242D	S15	E64	.896		1.3	2D	1F		C	1240	175	4.2	
ATHN	26	1306E	1308U	1330	S16	E58	.849		30.9	24D	SB	3	C		95		
PALE	26	1648E	1652	1659	S12	E62	.880		1.4	11D	SF	2	C		36		
HOLL	26	1727	1740	1755	S12	E60	.863		1.2	28	SN	2	C		43		
HOLL	26	1728	1729	1736	S10	W09	.160		26.1	8	SF	3	C		50		
HOLL	26	1726	1731	1750	S21	W04	.269		26.4	22	SB	2	C		96		
PALE	26	1729	1731	1735	S21	W02	.263		26.6	6	SF	3	C		23		D
HOLL	26	1730	1731	1737	N09	E19	.396		28.2	7	SF	3	C		39		
PALE	26	1734	1737	1807	S12	E62	.880		1.4	33	SF	3	C		42		D
HOLL	26	1739	1741	1747	N09	E19	.396		28.2	8	SF	2	C		59		
HOLL	26	1811	1813	1831	S14	E14	.267		27.8	20	SF	3	C		71		
BIGB	26	1824E	1827U	1939D	S10	W90	1.000		20.0	75D	SN	2	P	1827	40		
BIGB	26	2023	2025U	2222	S10	W90	1.000		20.1	119	1B	2	P	2025	80		
HOLL	26	2046	2114	2117	S12	E58	.846		1.2	31	SF	3	C		39		
HOLL	26	2116	2116	2136	N11	E19	.404		28.2	20	SF	3	C		20		
HOLL	27	0119	0122	0134D	S18	W08	.268		26.5	15D	SF	3	C		24		
BUCA	27	0600E		0620	S13	E52	.788		1.2	20D	SF		C	0601	54	.9	E
WEND	27	0612E		0620	S13	E52	.788		1.2	8D	SF		C	0614	112	1.9	
WEND	27	0647		0658	N18	W56	.863		23.1	11	SF		C	0654	62	1.2	
WEND	27	0702	0706	0720	S14	E06	.193		27.7	18	SB		C	0706	106	1.1	

Hα SOLAR FLARES

MAY 1980

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LONG. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY			COND.	TYPE	TIME — UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
BUCA	27	0705		0738	S15	E06	.208		27.7	25	SF		C	0710	86	.9	
WEND	27	0803		0827	S06	W22	.374		25.7	24	SN		C	0813	34	.4	D
ISTA	27	0821		0832	S19	W09	.290		26.7	11	SF						D
WEND	27	0821	0825	0832	S18	W12	.306		26.4	11	SB		C	0825	175	1.9	
ATHN	27	0825	0827	0841	S19	W12	.319		26.5	16	SB	2	C		127		
WEND	27	0827		0837	S13	E51	.777		1.2	10	SF		C	0832	47	.8	
WEND	27	0902	0904	0910D	S14	E05	.184		27.8	8D	SF		C	0904	131	1.4	
WEND	27	0904		0910D	S14	E51	.778		1.2	6D	1N		C	0910	200	3.4	
HUAN	27	1518		1526	S14	E45	.711		1.0	8	SF	1	C				
WEND	27	1600	1602	1612	S14	E02	.167		27.8	12	1B		C	1602	256	2.7	
BIGB	27	1600	1601	1618	S15	E01	.182		27.7	18	SB	2	C	1601	100	1.0	
BOUL	27	1600	1603	1612	S14	E03	.171		27.9	12	SB	3	C		95		D
HUAN	27	1601		1611D	S15	E01	.182		27.7	10D	SN	1	P	1602	80	.8	
WEND	27	1610	1612	1614	N10	E10	.303		28.4	4	SF		C	1612	62	.7	
HOLL	27	1613E	1617U	1622	S16	E03	.204		27.9	9D	SF	3	C		22		
BIGB	27	1741	1744	1747	S09	W30	1.000		21.0	6	2B	3	C	1744	240		
HOLL	27	1934	1934	1942	N10	E08	.206		28.4	8	SF	3	C		35		
HOLL	27	2105	2105	2123	S11	E45	.707		1.3	18	SB	3	C		48		
HOLL	27	2105	2105	2109D	S10	E42	.669		1.0	4D	SB	3	C		48		
HOLL	27	2138	2140	2155	S22	W19	.428		26.5	17	SF	3	C		67		
MANI	27	2222	2227	2315	S19	W20	.411		26.4	53	SF	2	P		30	.3	F
PALE	27	2334E	0007U	0043	S11	E41	.657		1.1	69D	SN	3	C		168		D
MANI	28	0214	0217	0235D	S23	W24	.495		26.3	21D	1F	2	P		200	2.4	F
PALE	28	0214	0216	0235	S22	W19	.429		26.7	21	1N	3	C		313		
PALE	28	0217	0219	0229	S10	E37	.603		30.9	12	SF	3	C		40		
CATA	28	0735	0735	0750	N32	W72	.976		22.9	15	1B	2	C	0735	68		
HOLL	28	1312	1318	1352	N08	W07	.247		28.0	40	SB	3	C		185		D
HOLL	28	1324	1326	1332	S09	W41	.655		25.5	8	SF	3	C		20		
HOLL	28	1324	1325	1330	S14	W32	.544		26.2	6	SF	3	C		23		
HOLL	28	1326	1327	1337	S10	E33	.547		1.0	11	SF	3	C		27		
HOLL	28	1401	1419	1443	S10	E33	.547		1.1	42	SN	3	C		113		
BIGB	28	1418	1419	1441	S13	W40	.648		25.6	23	SB	3	C	1419	50	.7	E
HOLL	28	1419	1419	1437	S09	W41	.655		25.5	18	SB	3	C		53		
HOLL	28	1508	1510	1529	S24	W28	.549		26.5	21	SF	3	C		59		
HOLL	28	1526	1529	1613	N08	W06	.239		28.2	45	SN	3	C		67		
HOLL	28	1551	1555	1558	S10	E32	.533		1.1	7	SF	3	C		31		
BIGB	28	1552	1601	1635	S19	W35	.603		26.0	43	SB	3	C	1601	50	.6	
HUAN	28	1553		1622D	S20	W34	.595		26.1	29D	1N	1	P	1605	160	2.1	E
HOLL	28	1553	1558	1619	S24	W28	.549		26.6	26	SN	3	C		52		
BIGB	28	1655	1659	1705D	S13	E34	.568		1.3	10D	SB	2	P	1659	120	1.5	
HOLL	28	1655	1708	1721	S10	E31	.518		1.0	26	1N	3	C		209		
HOLL	28	1655	1657	1701	S23	W32	.588		26.3	6	SF	3	C		24		
HOLL	28	1705	1718	1753	S18	W35	.599		26.1	48	1B	3	C		431		
HUAN	28	1712	1722	1742	S20	W35	.608		26.1	30	SN	2	C	1722	120	1.6	E
BIGB	28	1714E	1714U	1805	S17	W33	.569		26.2	51D	1B	2	P	1714	260	3.2	
HOLL	28	1719	1721	1740	N08	W07	.247		28.2	21	SF	3	C		64		
HOLL	28	1758	1802	1808	S20	W30	.546		26.5	10	SF	3	C		19		
HOLL	28	1813	1813	1831	S11	W41	.657		25.7	16	SF	3	C		41		
HUAN	28	1821		1827	S23	E63	.894		3.5	6	SF	1	C				
HOLL	28	1823	1826	1840	N06	W10	.275		28.0	17	SF	3	C		28		
HOLL	28	1829	1831	1839	S20	W30	.546		26.5	10	SF	3	C		26		
HOLL	28	1847	1853	2020	N08	W08	.256		28.2	93	1N	3	C		221		
RAMY	28	1848E	1853U	1916D	N09	W10	.288		28.0	23D	SN	3	C		168		
BIGB	28	1848	1853	2037	N08	W08	.256		28.2	109	1N	2	C	1853	210	2.2	
HUAN	28	1850		1943	N06	W10	.250		28.0	53	SF	1	C				
PALE	28	1853E	1853U	1853D	N08	W09	.265		28.1		SF	3	C		167		D
HOLL	28	1853	1904	1913	S20	W30	.546		26.5	15	SN	3	C		30		
HOLL	28	1924	1947	1949D	S19	W36	.616		26.1	25D	1B	3	C		296		
HOLL	28	1924	1951	2053	S18	W33	.573		26.3	89	2B	3	C		522		D
HUAN	28	1945	1957	2021	S19	W35	.603		26.2	36	SN	2	C	1957	145	2.0	E
BIGB	28	1945	1948	2026	S15	W35	.548		26.2	41	1B	2	C	1948	350	4.4	
HUAN	28	2109		2116	S08	E25	.424		30.8	7	SF	1	C	2110	130	1.5	
BIGB	28	2109	2111	2124	S09	E23	.393		30.6	15	SN	2	C	2111	60	.7	
HOLL	28	2146	2159	2214	S12	E28	.480		1.0	28	SN	3	C		74		
BIGB	28	2147	2150	2217	S13	E29	.498		1.1	30	SN	2	C	2150	60	.7	
HOLL	28	2153	2205	2236	S24	W33	.606		26.4	43	1B	3	C		274		
BIGB	28	2156	2212	2234	S23	W33	.600		26.4	35	1B	2	C	2212	260	3.2	
BIGB	28	2259	2300	2306	S18	W38	.636		26.1	7	SB	2	C	2300	70	.9	
HOLL	28	2259	2300	2306	S19	W38	.640		26.1	7	SN	3	C		123		
HOLL	28	2332	2344	2346D	S17	W39	.646		26.1	14D	2B	3	C		468		D

Hα SOLAR FLARES

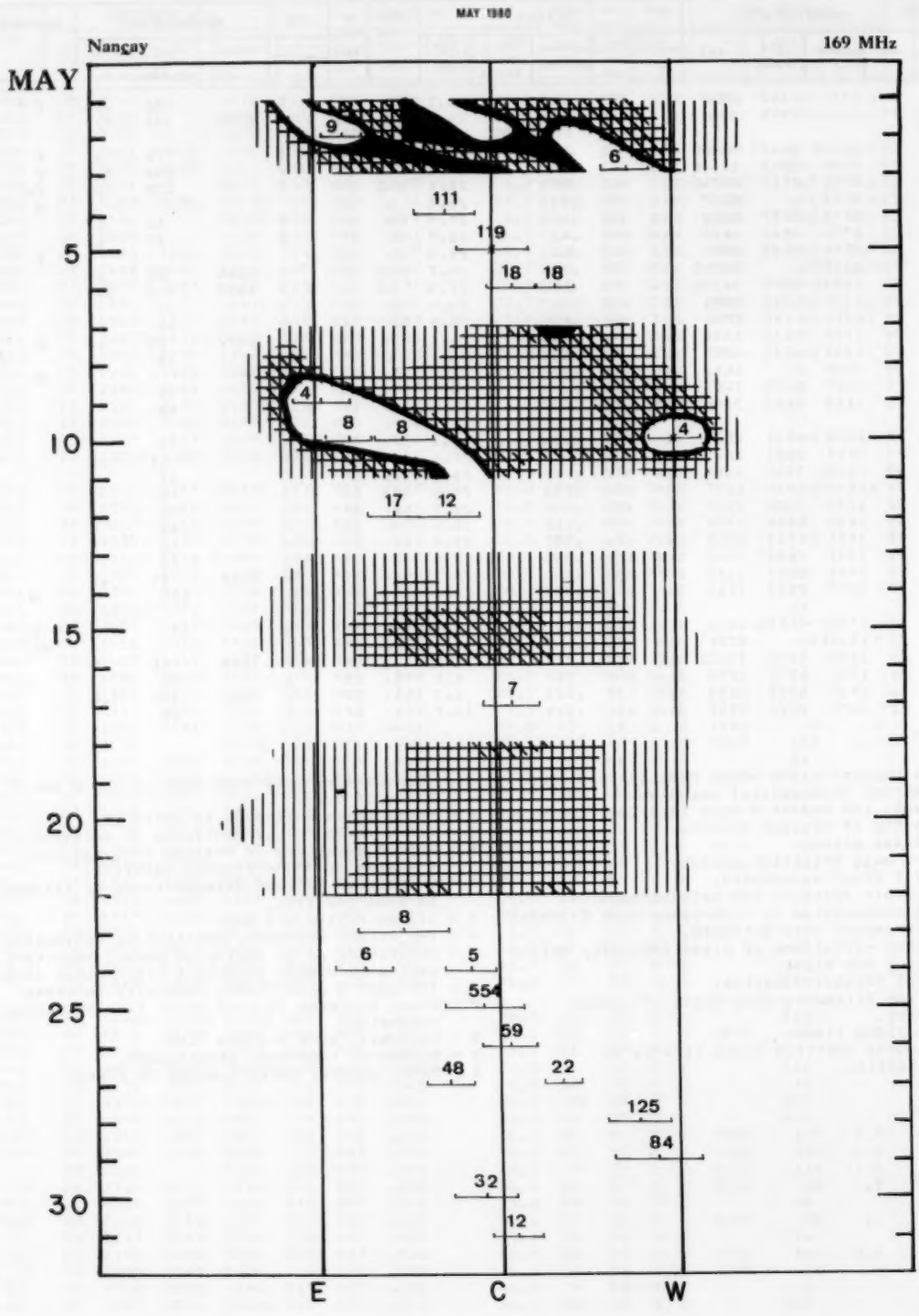
MAY 1980

OBSERV-ATORY	OBSERVED UT				LOCATION				CMP. DAY	DURA-TION MIN.	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION				COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
MANI	28	2334	2347	0018	S16	W37	.617		26.2	44	1B	2	P		350	4.6	F
BIGB	28	2339	2345	0048	S16	W36	.604		26.3	70	1B	2	C	2345	210	2.7	
MANI	29	0140E	0140U	0145D	S23	W16	.410		27.9	5D	SF	2	P		70	.8	F
MANI	29	0505	0515	0534D	S09	W41	.655		26.1	29D	1N	2	P		200	2.8	F
MANI	29	0508	0512	0534D	S17	W41	.670		26.1	26D	1N	2	P		220	3.2	FU
ISTA	29	0753		0757	S19	W44	.711		26.0	4	SN						D
MANI	29	0755	0757	0815	N10	W21	.429		27.8	20	SF	2	P		60	.7	
MANI	29	0756	0800	0834	N16	W14	.417		28.3	38	SF	2	P		25	.3	
ISTA	29	0756	0800	0808	N12	W18	.411		28.0	12	SB						E
WEND	29	0845E		09010	N08	W09	.264		28.7	160	SF		C	0845	38	.4	
CATA	29	1050E	1055	1056D	S24	W21	.472		27.9	5D	SN	2	P	1055	112	1.3	
HOLL	29	1303	1306	1321	S07	W55	.817		25.4	18	SF	2	C		29		
HOLL	29	1310	1315	1323	S23	W41	.691		26.5	13	SF	2	C		68		
HUAN	29	1329	1332	1334	S20	W46	.736		26.1	5	SF	1	C	1332	20	.3	D
HOLL	29	1330	1331	1339	S23	W41	.691		26.5	9	SF	2	C		28		
HUAN	29	1406		1411	N06	W12	.273		28.7	5	SF	1	C				D
HOLL	29	1407	1408	1417	N06	W12	.273		28.7	10	SN	3	C		31		
HOLL	29	2130	2132	2145	S24	W26	.527		27.9	15	SF	3	C		44		
HOLL	30	0020	0021	0037	S14	E15	.304		1.1	17	SN	3	C		36		
MANI	30	0027	0031	0041	S18	W48	.753		26.4	14	SF	2	P		40	.6	
RAMY	30	1046E	1046	1154	S14	W52	.789		26.5	68D	SF	3	C		47		
RAMY	30	1046E	1056	1137	S19	W54	.816		26.4	51D	SN	3	C		74		
HOLL	30	1239	1306	1327	S26	W54	.829		26.5	48	SF	3	C		54		
RAMY	30	1249	1304	1328	S24	W53	.816		26.6	39	SN	3	C		42		
RAMY	30	1601	1611	1647	S06	W70	.937		25.4	46	SF	3	C		12		
HOLL	30	2031	2033	2045	S30	E26	.581		2.8	14	SN	3	C		73		
BIGB	30	2051	2052	2106	N07	W29	.516		28.7	15	SB	3	C	2052	80	.9	
HOLL	30	2052	2053	2104	N06	W30	.525		28.6	12	SB	3	C		129		D
ATHN	31	0744E	0745U	0808	S13	W03	.162		1.1	24D	SB	3	C		111		D
ISTA	31	0745E		0751	S12	W03	.145		1.1	6D	SF						BE
CATA	31	1150	1150	1158D	S16	W06	.228		1.0		SN	2	P	1150	84	.9	
HOLL	31	1551	1552	1559	S14	W08	.218		1.1	8	SN	3	C		37		
BIGB	31	1835	1902	2059	S25	E32	.603		4.2	144	SF	2	C	1902	150	1.8	
HOLL	31	2024	2026	2031	S14	W16	.319		30.7	7	SF	3	C		45		

"REMARKS":

A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization
O = Observations have been made in the H and K lines of CaII.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

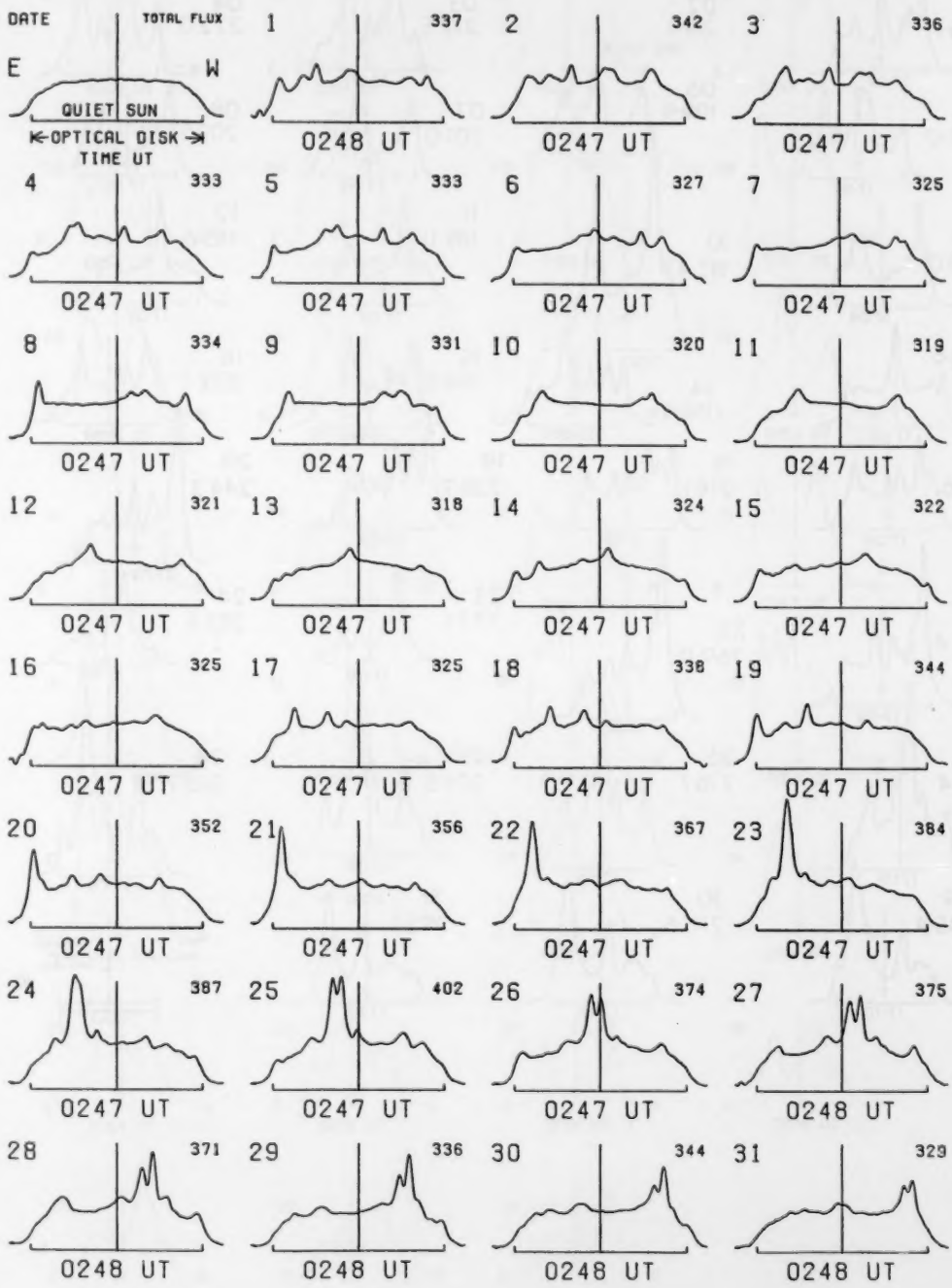


EAST-WEST SOLAR SCANS

MAY 1980

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

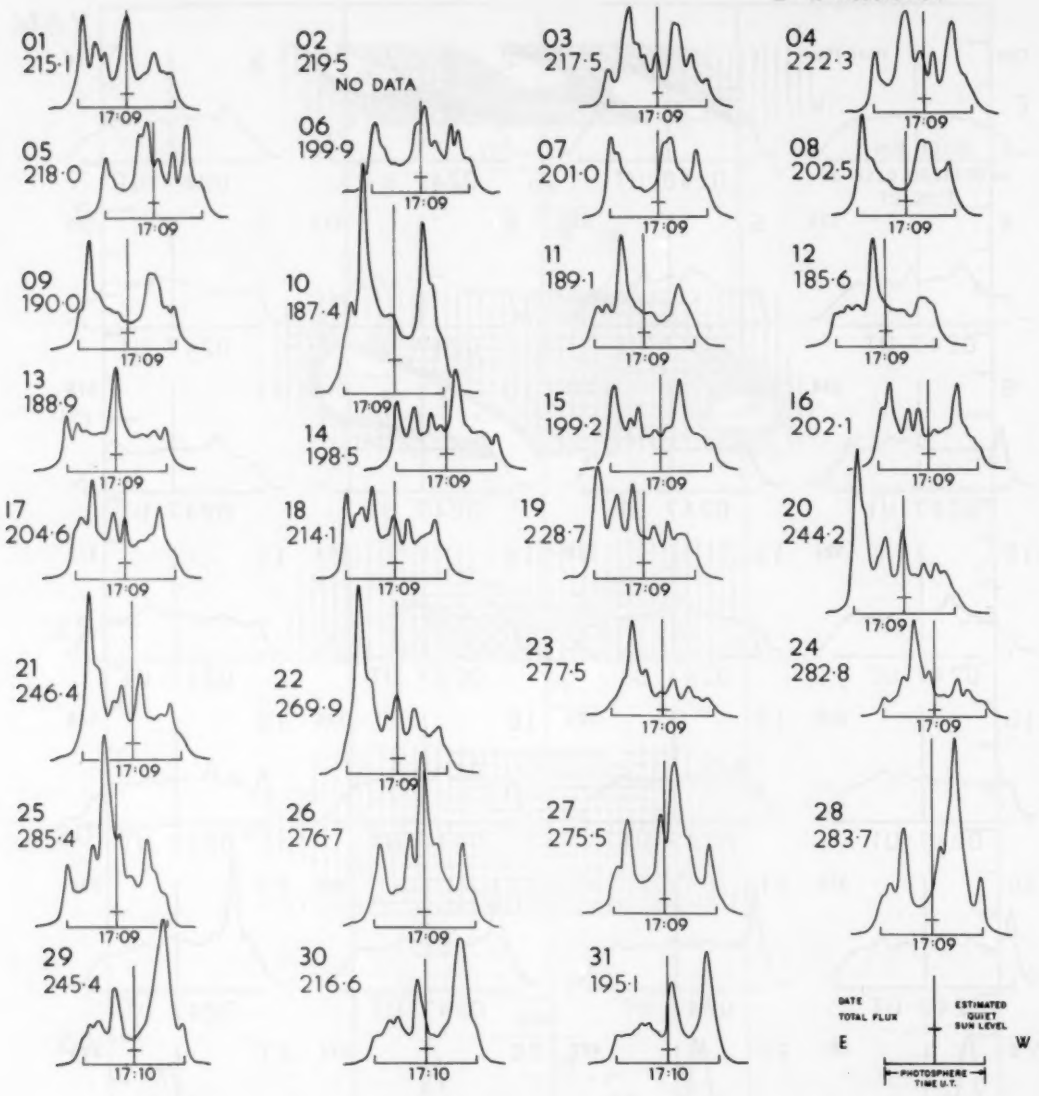


EAST-WEST SOLAR SCANS

MAY, 1980

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution

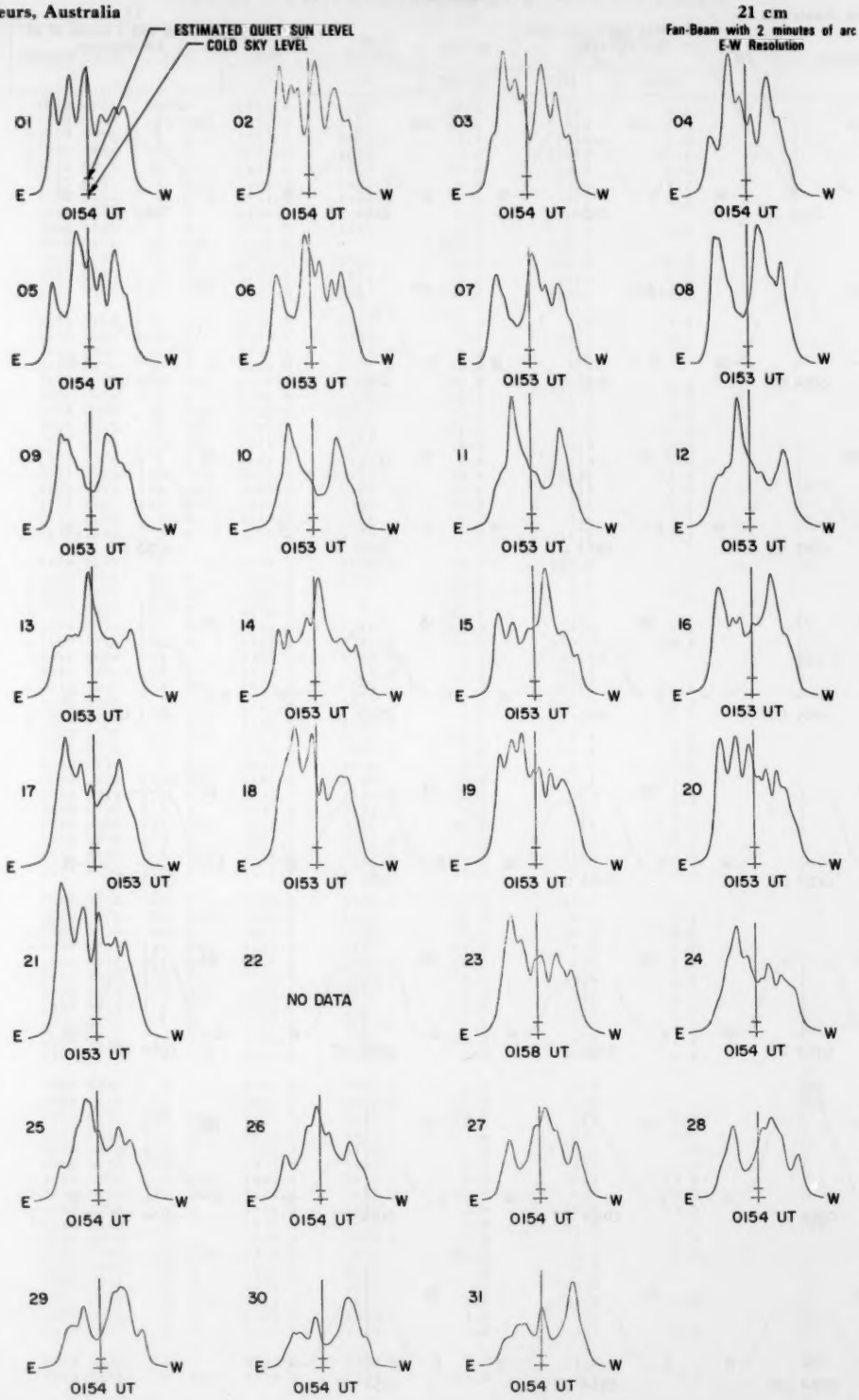


EAST-WEST SOLAR SCANS

MAY 1980

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

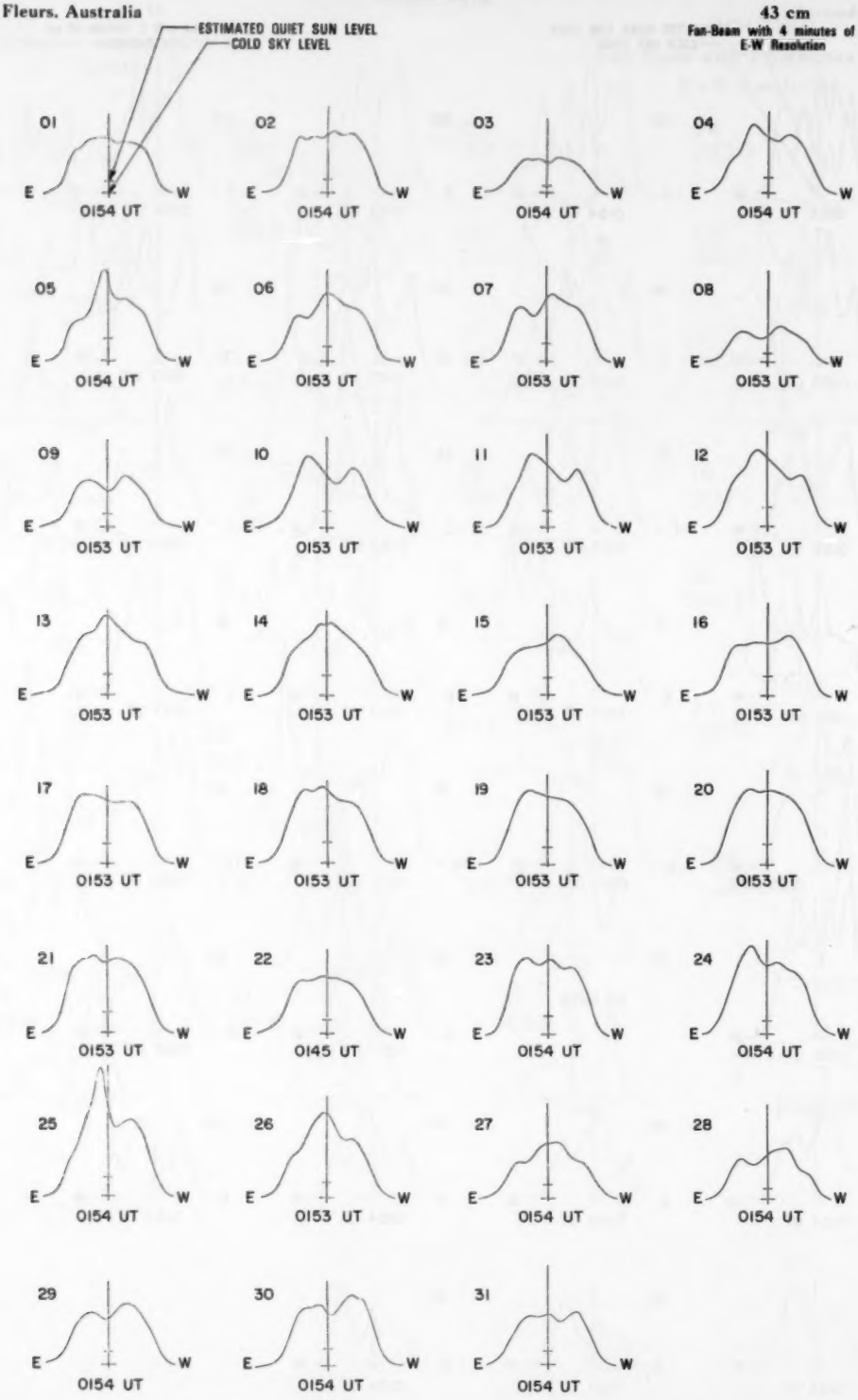


EAST-WEST SOLAR SCANS

MAY 1980

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
01	2800	OTTA	24OAR	1515.0	1605	50.0	8.2	4.1		
	2800	OTTA	1A S	1553.0	1557	10.0	4.0	2.1		
	2800	OTTA	3 S	1557.7	1558.1	2.5	12.4	6.0		
	2800	OTTA	45 C	1621.0	1624	7.0	258.0	83.0		
	2800	OTTA	30 PBI	1628.0	1628	32.0	18.8	6.2		
	2800	OTTA	4 S/F	1628.2	1628.7	5.0	43.0	14.2		
	2800	OTTA	1 S	1634.2	1634.5	1.5	5.8	2.5		
	2800	OTTA	40 F	1650.3	1650.5	1.0	6.2			
	2800	OTTA	1 S	1755.0	1757	4.0	4.2	2.0		
	2800	OTTA	21 GRF	1910.0		290.0	10.4			
	2800	OTTA	47 GB	1913.5	1916	12.0	750.0	170.0		
	2800	OTTA	4 S/F	1934.8	1935.1	1.5	16.6	5.6		
	2800	OTTA	47 GB	1939.0	2007	130.0	800.0	175.0		
02	2695	PENT	21 GRF	0028.0	0031	32.0	6.8	3.4		
	2695	PENT	4 S/F	0032.0	0034	7.0	14.2	5.6		
	2800	OTTA	24O R	1125.0	1133	8.0	4.2	2.1		
	2800	OTTA	40 F	1233.0	1252.2	45.0	8.4			
	2800	OTTA	23 GRF	1330.0	1500	200.0	12.6	6.0		
	2800	OTTA	3 S	1450.0	1454.5	10.0	11.2	4.0		
	2800	OTTA	20 GRF	1720.0	1722	23.0	6.2	3.1		
	2800	OTTA	20 GRF	1748.0	1753	22.0	2.6	1.3		
	2800	OTTA	26O FAL	1845.0	1935	50.0	-5.0	-2.5		
	2800	OTTA	1 S	2047.0	2047.6	3.0	4.2	2.1		
	2800	OTTA	26O FAL	2105.0	2135	30.0	-3.0	-1.8		
	2800	OTTA	20 GRF	2145.0	2215	55.0	3.0	1.8		
	2695	PENT	20 GRF	2245.0	2300	30.0	2.6	1.8		
	2695	PENT	1 S	2348.0	2351	5.0	4.6	2.3		
	2695	PENT	3 S	2356.0	2357.5	5.0	16.8	7.0		
03	8400	BERN	8	0759.1	0800.5	18.2	108.0			OPR
	2800	OTTA	24 R	1230.0	1244	14.0	7.4	3.7		
	2800	OTTA	27A RF	1230.0		570.0	7.4	7.0		
	2800	OTTA	24P R	1244.0		501.0	7.4			
	2800	OTTA	23 GRF	1246.0	1326	250.0	22.4	7.6		
	2800	OTTA	46F C	1301.0	1309.2	23.0	230.0	60.0		
	8400	BERN	21	1302.7U	1309.2U	15.9U	26.0U			OPR
	2800	OTTA	40 F	1348.0	1348.7	1.0	16.4			
	2800	OTTA	4 S/F	1619.3	1620.3	1.0	250.0	71.0		
	2800	OTTA	4 S/F	1622.0	1622.7	1.2	268.0	30.0		
	2800	OTTA	4 S/F	1748.0	1752.2	7.0	17.2	12.2		
	2800	OTTA	30 PBI	1755.0	1755	115.0	9.4	4.5		
	2800	OTTA	3 S	1759.0	1800.5	5.0	11.0	4.0		
	2800	OTTA	2 S/F	2032.0	2034	7.0	5.4	2.0		
	2800	OTTA	26A FAL	2105.0	2200	55.0	-7.4	-3.7		
	2800	OTTA	1 S	2127.3	2127.9	2.0	4.2	2.1		
	2800	OTTA	1 S	2133.0	2133.3	2.0	2.2	1.1		
	2800	OTTA	21 GRF	2214.0	2221	46.0	4.4	2.2		
	2800	OTTA	3 S	2215.5	2216.8	3.5	17.2	5.8		
	2695	PENT	4 S/F	2316.9	2317.6	1.1	46.2	23.0		
	2695	PENT	29 PBI	2318.0	2318	15.0	9.2	3.0		
04	2800	OTTA	40 F	1508.0	1508.7	3.2	12.6			
	2800	OTTA	20 GRF	1600.0	1630	90.0	4.2	2.1		
	2800	OTTA	46F C	1823.8	1825	7.2	29.2	10.8		
	2800	OTTA	29 PBI	1831.0	1831	25.0	5.8	2.7		
	2800	OTTA	21 GRF	1950.0	2017	50.0	3.6	1.8		
	2695	PENT	3 S	2013.9	2014.1	1.0	13.4	4.5		
	2800	OTTA	2 S/F	2019.5	2020	3.0	4.2	2.1		
	2800	OTTA	1 S	2100.5	2101	1.0	2.4	1.2		
	2800	OTTA	1 S	2104.8	2105.5	1.4	2.0	1.6		
	2800	OTTA	21 GRF	2200.0	2255	180.0	6.0	4.0		
	2800	OTTA	4 S/F	2203.0	2203.9	3.0	15.8	4.0		
05	8400	BERN	3	0525.1	0525.6	2.5	13.0			OPR
	8400	BERN	20	0625.3	0630.5	16.0	11.0			OPR
	2800	OTTA	20 GRF	1155.0	1235	100.0	4.0	2.0		
	2695	PENT	2 S/F	1411.5	1413.8	9.0	3.6	1.8		
	2800	OTTA	8 S	1429.0	1429.2	.8	1.6	.8		
	2800	OTTA	1 S	1437.8	1438	1.2	2.4	1.0		
	2800	OTTA	4 S/F	1443.4	1444.3	2.0	26.2	13.0		
	2800	OTTA	29 PBI	1445.4	1445.4	11.0	6.2	2.0		
	2800	OTTA	3 S	1536.0	1537	4.0	10.8	4.0		
	8400	BERN	3	1536.3	1537.1	3.0	11.0			OPR
	2800	OTTA	1 S	1659.0	1659.5	1.0	2.6	1.3		
	2800	OTTA	21 GRF	1920.0	1940	80.0	8.2	5.6		
	2800	OTTA	8 S	1936.1	1936.1	.1	7.4			
	2800	OTTA	8 S	1944.3	1944.7	.7	13.4			
	2695	PENT	4 S/F	2010.5	2012.5	4.0	16.4	4.0		
	2800	OTTA	1 S	2225.5	2226	1.0	2.6			
	2695	PENT	1 S	2307.5	2308	1.0	4.4	2.0		
06	8400	BERN	3	0758.5	0759.0	2.0	11.0			OPR
	2800	OTTA	20 GRF	1150.0	1154	36.0	5.4	2.7		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
06	2800	OTTA	20 GRF	1220.0	1229	18.0	3.2	1.6		
	2800	OTTA	4 S/F	1808.5	1809.8	3.0	23.0	10.0		
	2800	OTTA	29 PBI	1811.5	1811.5	17.0	4.0	2.0		
	2800	OTTA	22 GRF	1952.0	2020	43.0	2.4	1.2		
	2800	OTTA	22 GRF	2105.0	2130	45.0	3.2	1.6		
	2695	PENT	20 GRF	2205.0	2250	60.0	2.4	1.0		
07	8400	BERN	1	0616.5	0617.1	2.0	5.0			OPR
	8400	BERN	45	1120.0	1122.6	6.0	75.0			OPR
	2800	OTTA	46F C	1120.0	1121.7	7.0	51.0	10.2		
	2800	OTTA	27A RF	1305.0		200.0	4.2	3.9		
	2800	OTTA	24 R	1305.0	1316	11.0	4.2	2.0		
	2800	OTTA	4 S/F	1308.0	1308.7	3.0	18.4	8.0		
	8400	BERN	46	1314.0	1317.5	10.0	283.0D			OPR
	2800	OTTA	4 S/F	1314.2	1315.3	1.7	12.6	6.3		
	2800	OTTA	24P R	1316.0		169.0	4.2			
	2800	OTTA	45 C	1317.0	1320.4	16.0	305.0	54.0		
	8400	BERN	45	1454.7	1456.3	3.0	66.0			OPR
	2800	OTTA	4 S/F	1455.0	1456.5	8.0	205.0	41.0		
	2800	OTTA	26 FAL	1605.0	1625	20.0	-4.2	-2.1		
	2800	OTTA	3 S	2046.0	2046.8	5.0	96.0	16.2		
	2695	PENT	21 GRF	2204.0	2309	130.0	7.4	3.7		
	2695	PENT	3 S	2321.0	2323	7.0	35.0	14.4		
	2695	PENT	29 PBI	2328.0	2328	23.0	7.0	3.5		
08	2695	PENT	4 S/F	0056.5	0057.5	9.5	178.0	39.0		
	2695	PENT	29 PBI	0106.0	0106	15.0	5.2	2.6		
	2800	OTTA	21 GRF	1110.0	1355	440.0	14.4	8.0		
	8400	BERN	45	1126.0	1127.2	3.0	48.0			OPR
	2800	OTTA	4 S/F	1126.4	1127	5.0	79.0	23.8		
	2800	OTTA	1 S	1314.0	1316	5.0	2.8	1.4		
	8400	BERN	45	1328.0	1344.1	16.0	95.0			OPR
	2800	OTTA	46F C	1338.0	1344.1	13.0	51.0	21.0		
	2800	OTTA	21 GRF	1402.0	1404	35.0	11.0	5.5		
	2800	OTTA	1 S	1404.5	1405	1.0	5.2	2.6		
	2800	OTTA	4 S/F	1935.8	1937.3	4.2	56.0	14.0		
	2800	OTTA	29 PBI	1940.0	1940	6.0	3.8	1.9		
09	2695	PENT	1 S	0004.0	0004.5	1.0	7.0	3.4		
	8400	BERN	3	0531.5	0532.5	4.0	20.0			OPR
	8400	BERN	46	0711.0	0712.2	11.0	200.0D			OPR
	8400	BERN	3	1519.0	1524.0	4.0	12.0			OPR
	2800	OTTA	1 S	1522.0	1523.2	3.0	3.4	1.6		
	2800	OTTA	23 GRF	1940.0	2200	320.0	17.2	10.8		
	2800	OTTA	1 S	1943.5	1945	7.0	5.4	2.5		
	2695	PENT	1 S	2337.0	2338	3.0	4.2	2.4		
10	8400	BERN	3	0526.5	0527.0	6.0	6.0			OPR
	2800	OTTA	46F C	1129.5	1133.3	6.5	35.4	15.4		
	8400	BERN	45	1130.0	1133.1	10.0	40.0			OPR
	2800	OTTA	21 GRF	1730.0	1742	55.0	3.8	1.8		
	8400	BERN	8	1740.0	1745.5	1.0U	40.0			OPR
	2800	OTTA	3 S	1744.7	1745.2	1.7	45.0	11.2		
	2800	OTTA	21 GRF	1945.0	2015	145.0	7.6	3.0		
	2800	OTTA	45 C	1951.3	1952.2	5.0	59.0	21.8		
	2800	OTTA	40 F	2021.2	2022.8	3.5	3.8			
11	2695	PENT	3 S	0102.2	0102.6	1.5	25.6	9.0		
	2695	PENT	1 S	0115.3	0115.6	1.0	5.6	2.4		
	8400	BERN	3	0818.3	0819.5	2.0	11.0			OPR
	2800	OTTA	21 GRF	1250.0	1302	90.0	5.8	4.0		
	8400	BERN	4	1252.0	1252.6	8.0	37.0			OPR
	2800	OTTA	3 S	1252.2	1253.3	7.0	69.0	15.0		
	8400	BERN	1	1344.6	1345.5	2.5	11.0			OPR
	2800	OTTA	1 S	1345.0	1345.3	1.2	4.0	2.0		
	2800	OTTA	21 GRF	1450.0	1520	90.0	3.8	1.9		
	8400	BERN	45	1512.0	1515.0	6.0	158.0			OPR
	2800	OTTA	46F C	1512.1	1515	6.0	37.6	16.0		
	2800	OTTA	21 GRF	1650.0	1720	65.0	2.4	1.0		
	2800	OTTA	4 S/F	1654.0	1655.7	3.0	46.4	11.6		
	8400	BERN	4	1655.0	1656.0	4.0	17.0			OPR
	2800	OTTA	1 S	1758.0	1800.4	7.0	4.0	1.4		
	2800	OTTA	2 S/F	1810.0	1810.5	3.0	2.0	1.6		
	2800	OTTA	3 S	1853.0	1853.7	2.5	20.0	5.0		
	2800	OTTA	40 F	2142.0	2144.9	11.0	9.2			
	2695	PENT	21 GRF	2230.0	2330	110.0	3.8	1.9		
	2695	PENT	3 S	2341.7	2343	6.0	105.0	20.0		
12	2800	OTTA	8 S	1237.5	1237.7	.8	2.4	1.2		
	2800	OTTA	8 S	1326.5	1326.7	.5	2.0	1.0		
	2800	OTTA	1 S	1339.8	1340.1	2.0	3.4	1.6		
	2800	OTTA	8 S	1735.8	1736	8.0	3.8	1.9		
13	2800	OTTA	21 GRF	1306.0	1340	80.0	3.6			
	2800	OTTA	1 S	1311.0	1312	6.0	3.0	1.5		

SOLAR RADIO EMISSION
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MAY 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
14	8400	BERN	3	1255.6	1257.5	12.8	125.0			OPR
	2800	OTTA	3 S	1256.0	1257.6	5.5	170.0	49.4		
	2800	OTTA	29 PBI	1301.5	1301.5	11.0	4.8	2.0		
	2800	OTTA	1 S	1317.0	1318.7	7.0	2.2	1.1		
	2800	OTTA	8 S	1333.5	1333.7	.5	38.0			
	2800	OTTA	20 GRF	1405.0	1413	30.0	2.2	1.1		
	2800	OTTA	24O R	1500.0	1504	4.0	2.2	1.1		
	2800	OTTA	1 S	1506.0	1509.4	7.0	8.2	2.8		
	2800	OTTA	2 S/F	1517.0	1521	8.0	9.0	3.0		
	2800	OTTA	27A RF	1550.0		465.0	3.6	3.4		
	2800	OTTA	24 R	1550.0	1605	15.0	3.6	1.8		
	2800	OTTA	24P R	1605.0		412.0	3.6			
	2800	OTTA	21 GRF	1720.0	1722.5	14.0	3.6	1.8		
	2800	OTTA	8 S	1721.6	1722	.7	3.8	2.0		
	2800	OTTA	21 GRF	1900.0	1924	140.0	21.8	10.0		
	2800	OTTA	8 S	1915.8	1915.9	.2	21.8			
	2800	OTTA	46F C	1918.5	1920	4.5	61.0	24.4		
	2800	OTTA	3 S	1928.0	1930.7	5.0	13.2	7.0		
	2800	OTTA	45 C	1956.0	1958	7.0	11.2	4.6		
	2800	OTTA	8 S	2139.2	2139.7	.8	16.2	8.1		
	2695	PENT	26 FAL	2257.0	2335	38.0	-3.6			
	2695	PENT	8 S	2352.0	2352.3	.8	7.4	2.4		
15	2695	PENT	4 S/F	0102.0	0103	4.0	60.0	15.0		
	2800	OTTA	24 R	1120.0	1130	10.0	3.0	1.5		
	2800	OTTA	27A RF	1120.0		240.0	3.0	2.9		
	2800	OTTA	24P R	1130.0		220.0	3.0			
	2800	OTTA	1 S	1153.0	1153.3	1.0	3.8	1.9		
	2800	OTTA	1 S	1204.0	1205	2.5	2.6	1.3		
	2800	OTTA	21 GRF	1233.0	1246	107.0	3.8	1.9		
	2800	OTTA	2 S/F	1235.6	1236	1.0	5.2			
	2800	OTTA	1 S	1238.0	1239.7	7.0	9.8	4.5		
	2800	OTTA	26 FAL	1510.0	1520	10.0	-3.0	-1.5		
	2800	OTTA	1 S	1540.0	1542.5	6.0	3.0	1.5		
	2800	OTTA	20 GRF	1620.0	1700	140.0	3.8	1.9		
	2800	OTTA	1 S	1936.0	1936.6	1.2	1.8			
	2800	OTTA	20 GRF	1957.0	1958	15.0	3.8	1.9		
	2800	OTTA	21 GRF	2030.0	2050	60.0	6.4			
	2800	OTTA	4 S/F	2037.0	2041	10.0	45.0	11.0		
	2695	PENT	4 S/F	2355.0	2357.4	4.0	11.4	4.0		
16	2695	PENT	45 C	0134.3	0134.7	4.5	80.0	14.4		
	2800	OTTA	24O R	1155.0	1220	25.0	3.0	1.5		
	2800	OTTA	27 RF	1440.0		170.0	3.8	3.4		
	2800	OTTA	24 R	1440.0	1500	20.0	3.8	1.9		
	2800	OTTA	24P R	1500.0		130.0	3.8			
	2800	OTTA	26 FAL	1710.0	1730	20.0	-3.8	-1.9		
	2800	OTTA	21 GRF	2005.0	2105	95.0	5.6	2.8		
	2800	OTTA	8 S	2040.0	2040.3	.5	3.4			
	2800	OTTA	1 S	2058.0	2059.4	3.0	8.0	2.6		
	2800	OTTA	24 R	2202.0	2204	2.0	5.0	2.0		
	2800	OTTA	27A RF	2202.0		35.0	5.0	4.7		
	2800	OTTA	24P R	2204.0		31.0	5.0			
	2800	OTTA	45 C	2204.1	2210.2	10.0	32.0	14.0		
	2800	OTTA	1 S	2218.5	2219	1.0	2.6	1.3		
	2800	OTTA	3 S	2230.0	2232	4.0	55.0	24.0		
	2800	OTTA	26 FAL	2235.0	2237	2.0	-5.0	-2.5		
	2800	OTTA	32 ABS	2237.5	2255	45.0	-14.4	-9.6A		
17	8400	BERN	45	0732.6	0735.6	45.0	146.0			OPR
	2800	OTTA		1100.0	1310	130.0D	10.4			
	2800	OTTA	20 GRF	1410.0	1413	40.0	3.6	1.8		
	2800	OTTA	21 GRF	1500.0	1557	160.0	4.8	2.4		
	2800	OTTA	1 S	1644.0	1645	2.2	1.8	1.0		
	2800	OTTA	20 GRF	1838.0	1839.7	12.0	3.8	1.6		
	2800	OTTA	1 S	1902.0	1902.5	2.0	5.6	1.9		
	2800	OTTA	20 GRF	2010.0	2027	70.0	6.0	2.8		
	2800	OTTA	20 GRF	2154.0	2235	75.0	3.6	1.8		
	2695	PENT	24O R	2325.0	2335	10.0	4.8	2.4		
18	2695	PENT	21 GRF	0101.0	0108	15.0	9.4	3.1		
	2695	PENT	3 S	0106.5	0107	1.5	21.0	10.0		
	2800	OTTA	21 GRF	1115.0	1450	390.0	9.2	6.4		
	2800	OTTA	1 S	1254.1	1255	1.5	3.6	1.8		
	2800	OTTA	1 S	1344.8	1345	2.0	1.8	.9		
	2800	OTTA	24O R	1900.0	2040	100.0	3.6	1.8		
	2695	PENT	20 GRF	2305.0	2330	90.0	3.0			
19	2800	OTTA	24O R	1235.0	1245	10.0	3.6			
	8400	BERN	3	1418.0	1418.3	2.0	30.0			OPR
	2800	OTTA	1 S	1440.0	1443	5.0	2.6	1.3		
	2800	OTTA	1 S	1556.0	1556.4	1.5	2.0	1.0		
	2800	OTTA	1 S	1608.0	1610.7	5.0	2.6	1.2		
20	8400	BERN	27	1334.0	1411.5	200.0U	21.0			OPR

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
20	2800	OTTA	24O R	1340.0	1355	15.0	9.4	3.2		
	2800	OTTA	21 GRF	1356.0	1452	215.0	18.4	11.2		
	2695	PENT	46F C	1407.5	1411.5	11.0	20.0	6.7		
21	2800	OTTA	24O R	1400.0	1410	10.0	3.4	1.7		
	2800	OTTA	24O R	1705.0	1740	35.0	3.4	1.7		
	2800	OTTA	20 GRF	1800.0	1803.5	40.0	5.0	2.4		
	2800	OTTA	24O R	1920.0	2000	40.0	3.0	1.5		
	2800	OTTA	47 GB	2052.0	2056	21.0	800.0	317.0		
	2800	OTTA	30 PBI	2113.0	2113	250.0	25.0			
	2800	OTTA	40 F	2113.5	2117	9.0	17.0			
	2800	OTTA	40 F	2151.0	2153	4.0	6.4			
	2800	OTTA	21 GRF	2157.0	2210.3	65.0	10.6	5.0		
	2800	OTTA	2 S/F	2208.0	2208.6	2.0	7.6	3.8		
22	2800	OTTA	24O R	1300.0	1355	55.0	7.6	3.8		
	2800	OTTA	20 GRF	1416.8	1417	11.0	5.0			
	2800	OTTA	20 GRF	1510.0	1520	65.0	6.2	3.1		
	2800	OTTA	20 GRF	1711.0	1712	15.0	2.4	1.0		
	2800	OTTA	21 GRF	1820.0	2120	400.0	24.6	9.0		
	2800	OTTA	1 S	1853.8	1854.3	1.0	4.0	2.0		
	2800	OTTA	20 GRF	2015.0	2018	30.0	6.2	3.1		
	2800	OTTA	4 S/F	2051.0	2100	23.0	30.0	11.6		
	2800	OTTA	21 GRF	2147.0		28.0	4.0			
	2800	OTTA	1 S	2154.0	2156.3	6.0	7.6	3.8		
	2695	PENT	2 S/F	2256.0	2257.2	2.0	7.6	3.8		
	2695	PENT	29 PBI	2258.0	2258	16.0	3.4	1.7		
23	2800	OTTA	1A S	1055.0	1100	10.0	4.8	2.4		
	2800	OTTA	1 S	1057.5	1057.8	1.0	5.2	2.6		
	2800	OTTA	27A RF	1110.0		225.0	5.2	4.6		
	2800	OTTA	24 R	1110.0	1135	25.0	5.2	2.6		
	2800	OTTA	24P R	1135.0		175.0	5.2			
	8400	BERN	20	1355.5	1356.1	15.0	42.0			OPR
	2800	OTTA	21 GRF	1357.0	1401	28.0	5.2	3.0		
	2800	OTTA	1 S	1402.5	1405	8.0	9.8	4.9		
	2800	OTTA	26 FAL	1430.0	1455	25.0	-5.2	-2.6		
	8400	BERN	20	1440.0U	1440.0U	8.0	42.0			OPR
	2800	OTTA	20 GRF	1800.0	1825	60.0	4.8	2.4		
	2800	OTTA	20 GRF	1915.0	1930	30.0	2.6	1.3		
	2800	OTTA	20 GRF	1955.0	2005	30.0	2.4	1.2		
	2800	OTTA	45 C	2030.0	2032.3	4.0	3.6			
	2800	OTTA	21 GRF	2100.0	2150	110.0	8.4	2.8		
	2800	OTTA	1 S	2145.5	2146.3	2.0	3.6	1.7		
24	2695	PENT	1 S	0016.0	0016.5	1.0	4.8	2.6		
	2695	PENT	1 S	0026.2	0026.4	1.0	2.8	1.4		
	2695	PENT	4 S/F	0047.0	0050.5	6.0	27.4	12.0		
	2695	PENT	29 PBI	0053.0	0053	15.0	7.2	2.4		
	8400	BERN	21	0828.0	0830.3	.1U	8.0			OPR
	2800	OTTA	21 GRF	1103.0	1115	47.0	7.8	3.9		
	2800	OTTA	40 F	1136.2	1136.7	.7	14.0			
	2800	OTTA	20 GRF	1220.0	1235	50.0	3.2	1.6		
	2800	OTTA	1 S	1316.5	1317	1.5	4.6	2.3		
	2800	OTTA	20 GRF	1440.0	1527.5	115.0	6.2	2.1		
	2800	OTTA	21 GRF	2000.0	2030	60.0	3.4	2.0		
	2800	OTTA	1 S	2050.8	2051	1.0	3.4	1.7		
	2800	OTTA	20 GRF	2115.0	2118	20.0	3.4	2.2		
	2695	PENT	20 GRF	2340.0	2342	15.0	3.4	1.7		
25	2695	PENT		0025.0	0133	85.0D	43.8			
	8400	BERN	3	1014.0	1016.0	2.0	8.0			OPR
	2800	OTTA	20 GRF	1238.0	1239	19.0	4.4	2.2		
	2800	OTTA	21 GRF	1325.0	1345	30.0	6.0	3.0		
	8400	BERN	21	1330.0	1411.7	60.0	8.0			OPR
	2800	OTTA	8 S	1332.4	1332.4	.1	8.8			
	2800	OTTA	26O FAL	1420.0	1500	40.0	-6.0	-3.0		
	8400	BERN	20	1549.0	1550.5	20.0	26.0			OPR
	2800	OTTA	1 S	1726.0	1728	10.0	3.8			
	2800	OTTA	26O FAL	1750.0	1830	40.0	-6.0	-3.0		
	2695	PENT	45 C	2354.0	2356	8.0	43.6	17.4		
	2695	PENT	29 PBI	2402.0	2402	55.0	12.0	5.0		
26	2800	OTTA	22 GRF	1205.0	1240	80.0	6.2	3.1		
	2800	OTTA	1A S	1340.0	1350	10.0	4.3			
	2800	OTTA	8 S	1346.0	1346.2	.5	3.8	1.9		
	2800	OTTA	1 S	1424.0	1427.5	9.0	4.4	1.8		
	2800	OTTA	20 GRF	1518.0	1521	35.0	6.2	3.1		
	8400	BERN	21	1727.0	1728.3	10.0	18.0			OPR
	2800	OTTA	3 S	1727.5	1728.4	1.0	11.2	5.6		
	2800	OTTA	29 PBI	1728.5	1728.5	7.0	5.6	2.8		
	2800	OTTA	1 S	1810.5	1810.6	1.0	3.6	1.8		
	2800	OTTA	2 S/F	1824.0	1826	4.0	8.0	4.2		
	2800	OTTA	27 RF	1900.0		110.0	6.8	5.6		
	2800	OTTA	24 R	1900.0	1910	10.0	6.8	3.2		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22}Wm^{-2}Hz^{-1}$ PEAK	FLUX DENSITY MEAN	INT	REMARKS
26	2800	OTTA	24P R	1910.0		70.0	6.8			
	2800	OTTA	26 FAL	2020.0	2050	30.0	-6.8	-3.2		
	2695	PENT	20 GRF	2300.0	2305	40.0	5.0	3.0		
27	8400	BERN	1	0600.7	0601.7	1.0	9.0			OPR
	8400	BERN	1	0820.0	0821.8	10.0U	9.0			OPR
	2800	OTTA	20 GRF	1150.0	1230	120.0	8.8	4.4		
	2800	OTTA	4 S/F	1600.0	1601	5.0	14.4	5.8		
	8400	BERN	4	1600.0	1601.0	10.0	28.0			OPR
	2800	OTTA	20 GRF	1840.0	1850	30.0	2.8	1.2		
	2800	OTTA	8 S	1919.7	1920	.4	12.6			
	2800	OTTA	8 S	1930.5	1930.5	.1	10.4			
	2800	OTTA	4 S/F	2103.5	2104.5	2.5	46.0	20.0		
	2800	OTTA	29 PBI	2106.0	2106	14.0	5.8	2.0		
	2800	OTTA	24O R	2136.0	2140	4.0	5.8	2.0		
	2695	PENT	20 GRF	2345.0	2358	100.0	9.8	7.2		
28	2800	OTTA	21 GRF	1050.0	1110	120.0	10.4	5.2		
	2800	OTTA	1 S	1059.0	1100.5	3.5	4.2	2.2		
	2800	OTTA	24O R	1315.0	1317	2.0	4.6	2.3		
	2800	OTTA	4 S/F	1419.0	1419.5	1.8	14.8	5.0		
	8400	BERN	3	1419.0	1419.5	4.0	10.0			OPR
	2800	OTTA	1 S	1528.0	1528.4	1.0	6.0	2.0		
	2800	OTTA	21 GRF	1545.0	1551	30.0	8.6			
	8400	BERN	41	1545.0	1552.5	35.0	79.0			OPR
	2800	OTTA	3 S	1552.0	1552.5	7.0	77.0	34.0		
	2800	OTTA	3 S	1601.0	1605	9.0	13.2	6.6		
	8400	BERN	46	1637.0	1717.3	34.0	176.0U			OPR
	2800	OTTA	3 S	1637.0	1638.5	7.0	12.6	4.2		
	2800	OTTA	3 S	1653.0	1656	7.0	25.8	13.0		
	2800	OTTA	30 PBI	1700.0	1700	50.0	11.4			
	2695	PENT	28 PRE	1705.0	1706.3	5.0	8.0			
	2800	OTTA	46F C	1710.0	1717.6	27.0	316.0	54.0		
	2800	OTTA	4 S/F	1808.6	1810.1	3.0	20.0	10.0		
	2800	OTTA	21 GRF	1827.0	1920	110.0	9.0			
	2800	OTTA	28 PRE	1940.0		5.0	24.6			
	2800	OTTA	47 GB	1945.0	1947.4	7.0	1132.0	256.0		
	2800	OTTA	30 PBI	1952.0	1952	28.0	37.4	18.7		
	2800	OTTA	4 S/F	1954.5	1956.3	6.5	32.8	16.4		
	2800	OTTA	26A FAL	2100.0	2250	110.0	-16.8	-8.4		
	2800	OTTA	23 GRF	2145.0	2200	55.0	5.6	3.0		
	2800	OTTA	3 S	2218.5	2219.9	4.0	16.0	4.0		
	2695	PENT	21 GRF	2310.0	2400	80.0	11.8	5.9		
	2695	PENT	46F C	2338.0	2339	18.0	69.0	18.9		
29	2695	PENT	20 GRF	0112.0	0115	20.0	7.4	3.7		
	8400	BERN	45	0505.0	0511.0	250.0	123.0			OPR
	2800	OTTA	1 S	1111.0	1113	7.0	4.6	2.3		
	2800	OTTA	8 S	1844.0	1844.1	.5	11.8			
	2695	PENT	1 S	2323.0	2323.8	1.8	5.2	2.6		
30	2695	PENT	21 GRF	0015.0	0025	45.0	4.2	2.4		
	2695	PENT	1 S	0029.0	0030	4.5	5.2	2.6		
	2800	OTTA	20 GRF	1055.0	1056.5	40.0	8.6	4.3		
	2800	OTTA	40 F	2050.9	2051.7	3.0	38.0			
31	8400	BERN	3	0743.0	0744.3	8.0	42.0			OPR
	2800	OTTA	21 GRF	1805.0	1915	280.0	8.6	4.6		
	2800	OTTA	1 S	2048.0	2048.5	1.0	3.2	1.6		

Observatories:

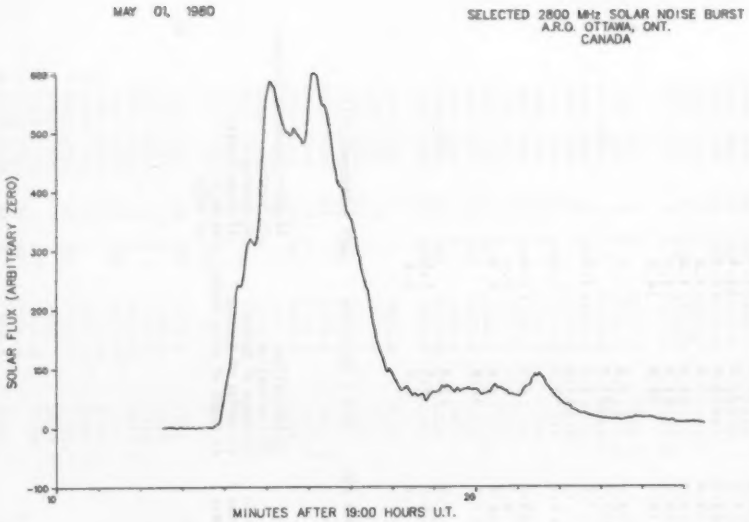
BERN = Berne BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

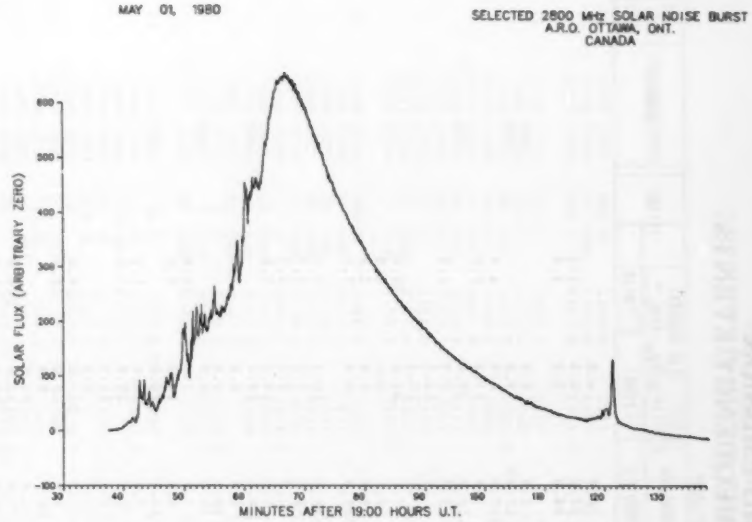
Explanation of Type Code:

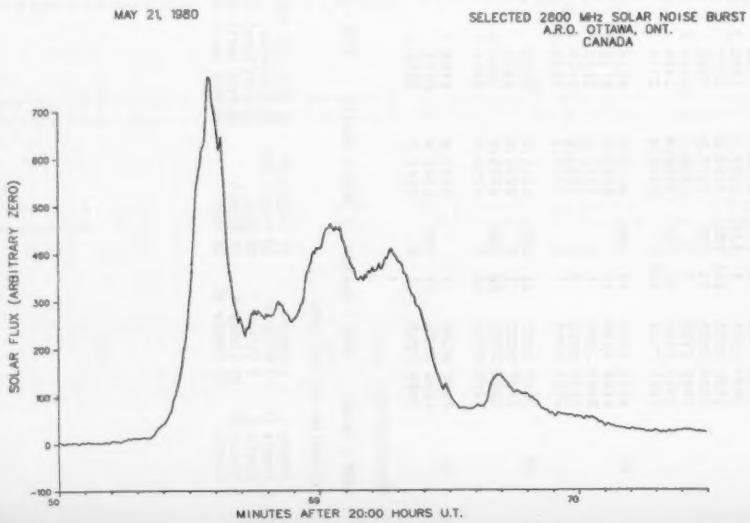
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

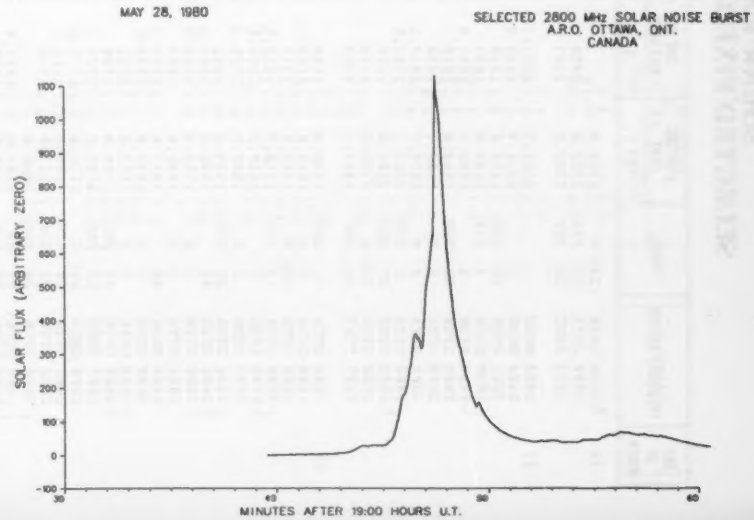
SELECTED SOLAR NOISE BURSTS

MAY 1-28, 1980









SOLAR WIND

Interplanetary Scintillations

MAY 1980

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
800430	121	0	295	34	330	24	2	3C161	62	-21	0.88	-22	-2.44	1694.40
	121	2	249	15	259	15	3	3C144+	44	-9	0.69	-45	-5.73	1694.49
	121	3	335	13	261	9	2	3C222	105	-8	1.12	-14	-0.48	1694.37
	121	4	425	13	357	26	3	3C237	111	-6	1.14	-14	-0.44	1694.41
	121	16	338	11	386	28	2	3C446	65	1	0.91	25	1.31	1694.32
	121	17	349	11	333	10	3	3C459	50	7	0.77	40	1.71	1694.32
	121	19	381	42	399	11	4	3C48	22	62	0.37	18	-1.70	1694.46
	121	21	368	20	318	17	4	3C144-	43	-9	0.68	-46	-5.13	1694.58
	121	23	261	12	293	13	4	3C144	43	-9	0.68	-47	-5.84	1694.53
800501	122	0	345	13	339	9	3	3C161	61	-22	0.87	-22	-2.36	1694.47
	122	1	308	24	305	14	3	3C144+	43	-9	0.68	-47	-5.51	1694.56
	122	16	422	53	377	49	2	3C459	50	7	0.77	39	1.88	1694.38
	122	19	431	67	416	14	3	3C48	22	62	0.37	22	-1.06	1694.49
	122	20	340	20	328	19	3	3C144-	42	-9	0.67	-47	-5.40	1694.61
	122	22	317	31	409	88	2	3C147	51	15	0.78	-35	-3.98	1694.55
	122	23	337	14	337	14	4	3C144	42	-9	0.67	-47	-5.45	1694.62
800502	123	0	369	13	317	21	3	3C161	61	-22	0.87	-24	-2.47	1694.53
	123	1	370	61	376	62	2	3C144+	42	-9	0.67	-48	-5.33	1694.63
	123	16	385	82	250	44	2	3C446	66	1	0.91	24	1.38	1694.42
	123	17	473	88	542	125	2	3C459	51	7	0.78	37	1.90	1694.43
	123	19	394	22	427	12	4	3C48	23	61	0.39	25	-1.01	1694.51
	123	20	392	18	392	18	4	3C144-	41	-9	0.66	-48	-5.28	1694.67
	123	22	369	18	390	20	2	3C147	50	15	0.77	-35	-3.91	1694.61
800503	124	1	289	12	323	14	2	3C144+	41	-9	0.66	-48	-5.91	1694.64
	124	1	392	46	386	45	2	3C161	60	-23	0.87	-24	-2.47	1694.58
	124	19	345	15	378	33	2	3C48	23	59	0.39	29	-1.15	1694.53
	124	20	407	30	418	30	2	3C144-	40	-9	0.64	-49	-5.41	1694.72
	124	22	373	68	445	229	2	3C147	49	16	0.75	-36	-4.00	1694.65
	124	23	347	12	355	12	4	3C144	40	-9	0.64	-50	-5.74	1694.71
800504	125	0	328	12	348	28	3	3C161	59	-23	0.86	-26	-2.79	1694.59
	125	1	336	47	360	95	2	3C144+	40	-9	0.64	-50	-5.84	1694.71
800505	126	1	397	23	398	23	2	3C144+	39	-9	0.63	-50	-5.60	1694.77
	126	15	449	134	408	75	2	3C459	55	6	0.82	35	1.84	1694.53
800506	127	19	325	57	356	30	2	3C48	24	55	0.41	37	-0.65	1694.61
	127	21	377	27	390	19	2	3C147	47	18	0.73	-38	-4.25	1694.77
	127	23	506	15	507	15	3	3C144	37	-9	0.60	-54	-5.57	1694.87
800507	128	1	575	176	437	19	2	3C144+	37	-9	0.60	-52	-5.28	1694.88
	128	3	487	58	545	175	2	3C237	104	-6	1.11	-15	-0.71	1694.69
	128	6	284	37	317	9	2	3C273	138	-3	1.24	-9	0.87	1694.54
	128	16	307	36	373	18	2	3C459	57	6	0.84	32	1.44	1694.55
	128	18	327	9	342	26	2	3C48	25	54	0.42	38	-0.46	1694.64
	128	22	514	28	533	29	3	3C144	36	-9	0.59	-53	-5.51	1694.91
	128	22	411	53	552	52	2	3C147	46	19	0.72	-38	-4.22	1694.82
800508	129	0	349	16	379	71	2	3C161	56	-25	0.83	-28	-3.06	1694.76
	129	3	346	30	309	89	2	3C222	97	-8	1.08	-15	-0.76	1694.68
	129	4	302	75	333	28	2	3C237	103	-6	1.11	-15	-0.48	1694.64
	129	5	416	39	376	70	2	3C273	139	-3	1.24	-9	0.38	1694.67
	129	16	448	46	290	11	2	3C459	57	6	0.84	33	1.76	1694.65
	129	18	364	10	390	31	3	3C48	25	53	0.42	39	-0.04	1694.68
	129	20	446	33	445	28	3	3C144-	35	-9	0.57	-54	-5.91	1694.93
	129	22	443	20	453	21	3	3C144	35	-9	0.57	-54	-5.94	1694.94
800509	130	0	549	24	568	73	2	3C161	55	-26	0.82	-28	-2.78	1694.85
	130	1	441	22	436	22	2	3C144+	35	-9	0.57	-54	-5.96	1694.94
	130	5	486	26	459	132	2	3C273	138	-3	1.24	-9	0.19	1694.74
	130	15	314	12	321	45	2	3C446	73	0	0.96	18	1.04	1694.64
	130	18	362	11	332	20	3	3C48	26	52	0.44	40	0.09	1694.71
	130	20	368	23	374	23	3	3C144-	35	-9	0.57	-56	-6.42	1694.96
	130	21	596	91	398	21	2	3C147	45	20	0.71	-40	-3.96	1694.94
	130	22	370	16	401	18	3	3C144	34	-9	0.56	-54	-6.32	1694.96
800510	131	16	333	32	390	76	2	3C459	59	5	0.86	30	1.46	1694.68
	131	18	299	8	300	8	3	3C48	26	50	0.44	41	-0.39	1694.73
	131	20	289	19	318	21	3	3C144-	34	-9	0.56	-57	-7.20	1694.97

SOLAR WIND

Interplanetary Scintillations

MAY 1980

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
	131	22	351	15	351	15	3	3C144	33	-9	0.54	-56	-6.67	1695.00
	131	23	418	11	481	86	3	3C161	53	-27	0.80	-28	-3.09	1694.90
800511	132	0	544	26	524	72	2	3C196	67	6	0.92	-21	-1.91	1694.89
	132	1	321	34	296	16	2	3C144+	33	-9	0.54	-56	-6.93	1694.99
	132	4	536	26	559	23	2	3C273	136	-3	1.23	-9	0.09	1694.83
	132	16	425	11	427	9	3	3C459	60	5	0.87	29	1.61	1694.76
	132	18	520	36	526	19	3	3C48	27	49	0.45	42	1.19	1694.80
	132	20	411	14	397	14	3	3C144-	33	-9	0.54	-57	-6.42	1695.05
	132	21	327	13	365	56	3	3C147	43	22	0.68	-41	-4.93	1694.95
	132	22	387	14	382	14	3	3C144	33	-9	0.54	-57	-6.55	1695.05
800512	133	1	349	18	354	15	3	3C144+	32	-9	0.53	-57	-6.85	1695.04
	133	4	378	87	510	13	2	3C273	135	-3	1.23	-9	0.38	1694.80
	133	15	466	49	457	121	2	3C446	76	1	0.97	17	1.16	1694.82
	133	16	482	24	395	16	2	3C459	61	5	0.87	28	1.59	1694.81
	133	18	310	8	355	9	4	3C48	27	48	0.45	43	-0.09	1694.80
	133	20	328	14	333	14	3	3C144-	32	-9	0.53	-59	-7.19	1695.07
	133	21	468	64	407	25	2	3C147	42	23	0.67	-40	-4.35	1695.04
	133	22	311	12	314	13	3	3C144	32	-9	0.53	-58	-7.27	1695.07
	133	23	394	10	381	13	4	3C161	52	-28	0.79	-29	-3.21	1694.97
800513	134	1	322	14	344	16	2	3C144+	31	-9	0.52	-58	-7.22	1695.08
	134	16	467	137	419	22	2	3C459	62	5	0.88	28	1.62	1694.84
	134	18	338	15	383	12	2	3C48	28	47	0.47	43	0.33	1694.84
	134	20	284	15	322	16	3	3C144-	31	-9	0.52	-59	-7.69	1695.10
	134	21	415	78	394	26	2	3C147	42	24	0.67	-42	-4.71	1695.06
	134	22	266	17	287	18	3	3C144	31	-9	0.52	-60	-7.98	1695.09
	134	23	265	14	270	22	3	3C161	51	-29	0.78	-30	-3.84	1694.94
800514	135	1	322	34	335	23	2	3C144+	30	-9	0.50	-59	-7.37	1695.12
	135	16	384	20	424	17	2	3C459	63	5	0.89	26	1.37	1694.85
	135	18	319	12	336	13	2	3C48	28	45	0.47	45	0.30	1694.87
	135	22	304	50	363	22	3	3C144	30	-9	0.50	-60	-7.64	1695.15
	135	23	314	11	240	25	2	3C161	50	-30	0.77	-30	-3.73	1695.01
800515	136	1	276	19	289	20	2	3C144+	30	-9	0.50	-61	-8.03	1695.15
	136	18	314	26	403	35	2	3C48	29	44	0.48	45	0.29	1694.90
	136	20	253	16	254	16	3	3C144-	29	-10	0.48	-61	-8.42	1695.17
	136	21	394	75	384	19	2	3C147	40	25	0.64	-43	-4.95	1695.14
	136	22	269	23	262	22	3	3C144	29	-10	0.48	-62	-8.28	1695.18
	136	23	283	10	286	10	3	3C161	50	-30	0.77	-31	-3.92	1695.03
800516	137	0	212	16	244	18	2	3C144+	29	-10	0.48	-62	-9.23	1695.15
	137	16	280	21	420	40	2	3C459	65	4	0.91	25	1.23	1694.87
	137	18	380	12	482	16	2	3C48	30	43	0.50	44	0.86	1694.95
	137	20	252	16	246	15	2	3C144-	28	-10	0.47	-62	-8.67	1695.21
	137	22	251	17	256	17	3	3C144	28	-10	0.47	-62	-8.70	1695.21
	137	23	342	12	360	13	2	3C161	49	-31	0.75	-31	-3.70	1695.11
800517	138	0	252	17	274	20	2	3C144+	28	-10	0.47	-63	-8.75	1695.22
	138	16	291	15	313	33	2	3C459	66	4	0.91	23	1.18	1694.92
	138	18	348	13	354	14	3	3C48	30	42	0.50	45	0.71	1694.98
	138	19	274	19	290	14	2	3C144-	27	-10	0.45	-63	-8.53	1695.26
	138	21	303	29	352	39	2	3C147	39	27	0.63	-43	-5.53	1695.18
	138	22	339	35	346	17	2	3C144	27	-10	0.45	-63	-7.84	1695.29
	138	23	382	33	356	20	3	3C161	48	-31	0.74	-31	-3.66	1695.16
800518	139	0	280	12	264	11	2	3C144+	27	-10	0.45	-63	-8.46	1695.27
	139	0	308	18	252	104	2	3C196	61	10	0.87	-26	-2.78	1695.09
	139	16	363	9	360	17	3	3C459	67	4	0.92	22	1.24	1695.00
	139	18	327	9	374	11	3	3C48	31	41	0.52	45	0.60	1695.00
800519	140	21	278	10	289	10	3	3C144	25	-10	0.42	-65	-8.81	1695.35
	140	23	268	8	249	7	3	3C161	47	-33	0.73	-33	-4.37	1695.18
800520	141	0	257	13	257	13	2	3C144+	25	-10	0.42	-65	-9.13	1695.35
	141	0	446	28	345	43	2	3C196	59	11	0.86	-27	-2.66	1695.23
	141	4	276	11	312	13	2	3C273	128	-2	1.21	-11	0.53	1695.02
	141	18	361	12	359	18	4	3C48	32	39	0.53	45	0.98	1695.08
	141	19	267	14	262	14	3	3C144-	24	-10	0.41	-66	-9.17	1695.39
	141	21	254	10	262	11	3	3C144	24	-10	0.41	-66	-9.37	1695.39
	141	21	395	72	350	22	2	3C147	37	30	0.60	-44	-5.24	1695.33

SOLAR WIND

Interplanetary Scintillations

MAY 1980

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
	141	23	270	8	267	8	3	3C161	46	-34	0.72	-32	-4.39	1695.22
800521	142	0	354	30	325	132	2	3C196	59	11	0.86	-29	-2.98	1695.23
	142	2	216	16	312	14	2	3C222	85	-7	1.02	-16	-1.11	1695.04
	142	3	230	10	271	9	2	3C237	91	-5	1.05	-17	-0.89	1695.06
	142	4	294	12	342	33	2	3C273	127	-2	1.20	-11	0.41	1695.08
	142	16	359	9	334	36	3	3C459	70	4	0.94	20	1.18	1695.11
	142	17	368	27	475	32	2	3C48	33	38	0.54	45	1.08	1695.12
	142	21	294	40	467	37	2	3C147	36	31	0.59	-44	-5.95	1695.34
800522	143	1	266	21	254	10	2	3C216	68	6	0.93	-20	-2.07	1695.18
	143	4	304	14	328	45	2	3C273	126	-2	1.20	-11	0.39	1695.12
	143	16	289	9	296	7	2	3C459	70	4	0.94	20	1.06	1695.10
	143	17	382	15	399	19	3	3C48	34	37	0.56	45	1.19	1695.16
	143	19	206	15	246	18	2	3C144-	22	-10	0.37	-67	-10.78	1695.45
	143	21	271	13	301	14	2	3C144	22	-10	0.37	-67	-9.44	1695.48
	143	21	409	41	371	41	2	3C147	36	32	0.59	-45	-5.31	1695.41
	143	23	457	40	499	33	2	3C161	45	-35	0.71	-33	-3.69	1695.38
800523	144	0	461	74	429	33	2	3C144+	22	-10	0.37	-67	-7.67	1695.52
	144	2	281	15	274	14	2	3C222	83	-6	1.01	-16	-1.17	1695.20
	144	15	356	24	274	12	2	3C459	71	3	0.95	19	1.14	1695.18
	144	17	364	9	348	9	3	3C48	35	36	0.57	44	1.10	1695.19
	144	22	363	9	349	9	2	3C144	21	-11	0.36	-68	-8.46	1695.55
	144	23	465	126	432	41	2	3C196	56	13	0.83	-30	-3.02	1695.39
	144	23	292	10	271	20	3	3C161	44	-36	0.69	-33	-4.48	1695.36
800524	145	1	298	40	369	107	2	3C222	82	-6	1.00	-16	-1.24	1695.25
	145	1	542	81	468	64	2	3C216	66	7	0.91	-23	-2.07	1695.38
	145	4	296	11	343	58	2	3C273	124	-2	1.19	-12	0.31	1695.19
	145	13	298	42	290	46	2	3C409	105	10	1.12	11	1.48	1695.17
	145	15	410	32	476	59	2	3C459	72	3	0.95	18	1.07	1695.24
	145	17	453	14	436	31	2	3C48	35	35	0.57	44	1.57	1695.25
	145	23	369	9	335	12	3	3C161	43	-36	0.68	-32	-4.06	1695.43
800525	146	1	326	13	324	21	2	3C222	81	-6	1.00	-16	-1.24	1695.30
	146	2	305	7	337	8	2	3C237	87	-5	1.03	-16	-1.10	1695.28
	146	4	384	6	390	7	3	3C273	123	-2	1.19	-12	0.00	1695.29
	146	6	426	22	407	14	2	3C295	102	11	1.10	-9	-0.28	1695.32
	146	17	553	22	823	34	2	3C48	36	34	0.59	43	1.86	1695.30
	146	21	427	51	390	21	2	3C144	19	-11	0.33	-70	-8.30	1695.64
	146	22	369	31	368	27	3	3C161	43	-37	0.68	-34	-4.21	1695.47
800526	147	0	324	23	282	73	2	3C216	64	8	0.90	-24	-2.41	1695.38
	147	1	302	10	296	10	2	3C222	80	-6	0.99	-16	-1.31	1695.32
	147	2	319	12	288	11	2	3C237	86	-4	1.02	-17	-1.21	1695.33
	147	4	260	23	272	46	2	3C273	122	-1	1.19	-12	0.42	1695.23
	147	7	341	8	341	78	2	3C298	140	2	1.24	-7	0.76	1695.29
	147	17	415	19	406	21	3	3C48	37	33	0.60	44	1.50	1695.31
	147	21	520	68	440	22	2	3C144	18	-11	0.31	-71	-7.90	1695.69
	147	23	397	51	351	21	2	3C161	42	-38	0.67	-33	-4.08	1695.52
800527	148	17	373	11	415	12	3	3C48	38	32	0.62	43	1.30	1695.33
	148	19	439	41	425	40	2	3C144-	17	-11	0.29	-72	-8.48	1695.72
	148	20	208	19	252	119	2	3C147	33	38	0.54	-45	-7.51	1695.52
	148	21	366	13	333	12	3	3C144	17	-11	0.29	-72	-9.10	1695.72
	148	22	409	11	379	15	4	3C161	41	-39	0.66	-33	-4.09	1695.56
800528	149	0	470	24	521	31	2	3C216	63	9	0.89	-25	-2.37	1695.52
	149	0	415	18	456	59	2	3C144+	17	-11	0.29	-72	-8.65	1695.73
	149	1	330	16	344	15	2	3C222	78	-6	0.98	-17	-1.40	1695.42
	149	2	285	12	299	13	2	3C237	84	-4	1.01	-16	-1.15	1695.38
	149	5	310	15	345	128	2	3C295	101	11	1.10	-8	-0.09	1695.37
	149	17	552	91	565	49	2	3C48	38	32	0.62	43	1.93	1695.41
	149	21	396	14	371	13	3	3C144	16	-12	0.28	-74	-9.02	1695.76
800529	150	0	413	42	453	23	2	3C144+	16	-12	0.28	-73	-8.82	1695.77
	150	3	385	25	346	22	2	3C273	119	-1	1.18	-12	-0.14	1695.44
	150	6	350	46	322	29	3	3C298	138	3	1.24	-8	0.59	1695.40
	150	15	362	28	350	127	3	3C459	77	4	0.98	17	1.15	1695.40
	150	17	311	8	304	8	4	3C48	39	31	0.63	42	0.91	1695.38
	150	22	476	52	462	51	2	3C161	40	-40	0.64	-34	-3.98	1695.65

SOLAR WIND

Interplanetary Scintillations

MAY 1980

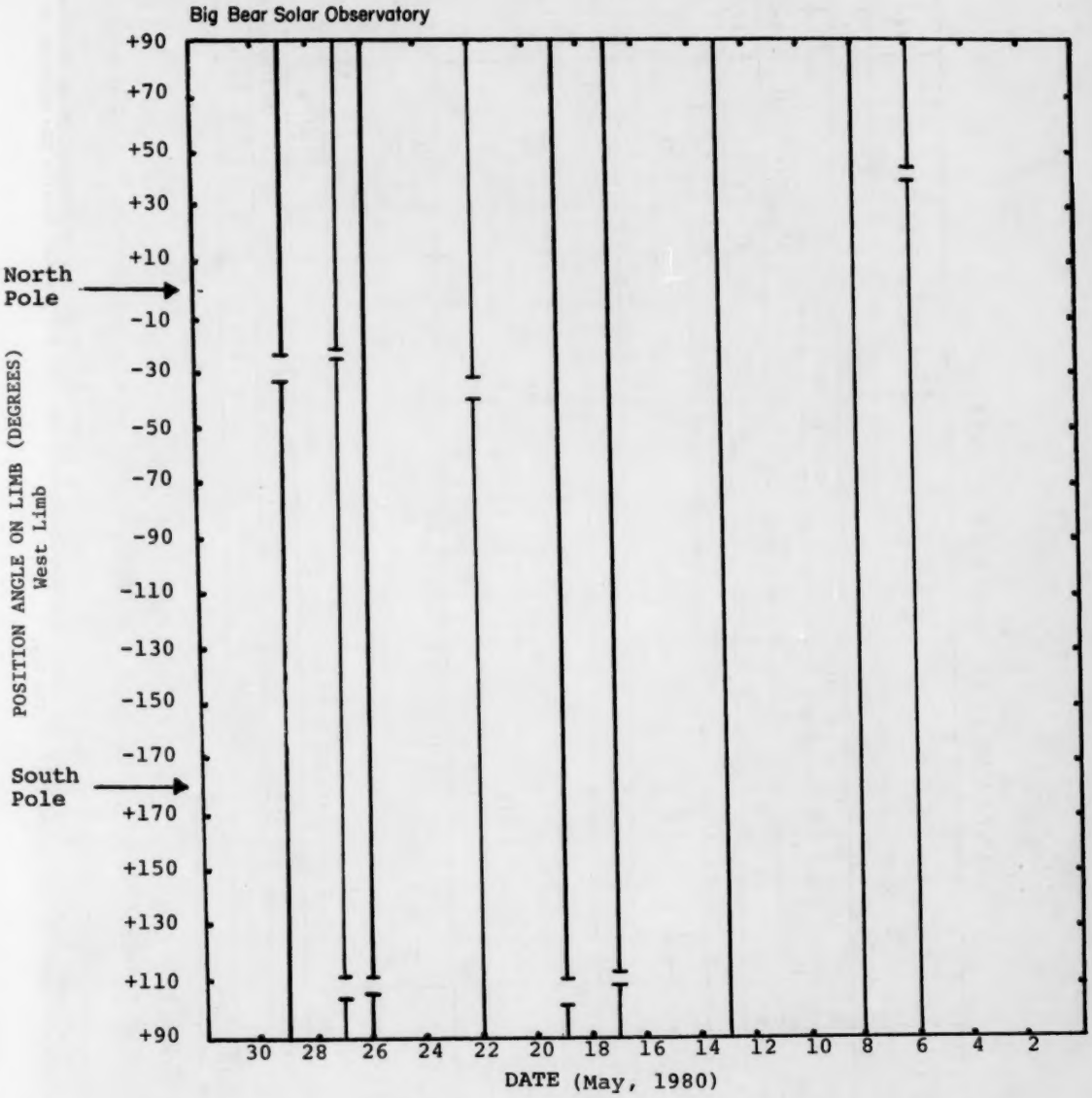
DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
800530	151	17	302	20	348	38	3	3C48	40	30	0.64	42	0.96	1695.42
	151	21	514	26	521	28	2	3C144	14	-12	0.24	-75	-8.47	1695.86
	151	22	339	20	372	31	3	3C161	39	-41	0.63	-33	-4.58	1695.65
	151	23	353	47	387	170	2	3C196	51	18	0.78	-35	-3.83	1695.63
800531	152	3	312	9	290	9	2	3C273	117	-1	1.17	-12	0.02	1695.47
	152	6	347	30	382	59	2	3C298	136	3	1.23	-8	0.62	1695.48
	152	15	392	58	449	75	2	3C459	79	4	0.99	18	1.24	1695.49
	152	17	461	13	473	14	4	3C48	41	29	0.66	42	1.72	1695.50
	152	20	313	20	353	37	2	3C147	31	43	0.52	-44	-6.25	1695.73
	152	21	593	19	614	18	2	3C144	13	-13	0.22	-76	-8.21	1695.90
	152	22	447	18	402	48	3	3C161	39	-42	0.63	-33	-4.09	1695.72
800601	153	2	355	22	388	27	2	3C237	80	-4	0.99	-16	-1.30	1695.58
	153	3	400	18	449	64	2	3C273	116	-1	1.16	-13	-0.26	1695.57
	153	6	275	56	300	23	2	3C298	135	3	1.23	-8	0.89	1695.45
	153	15	291	10	318	24	2	3C459	80	4	0.99	18	1.26	1695.47
	153	17	400	16	415	16	3	3C48	42	29	0.67	40	1.48	1695.52
	153	22	317	10	294	29	3	3C161	38	-43	0.62	-32	-4.73	1695.71

VMID IS A MEAN AND VPK IS A MAXIMUM VELOCITY IN THE IPS SCATTERING REGION.
THE REGION'S CENTROID IS SPECIFIED BY LAT, DIST, DLON.
LAG AND ROTATION NUMBER GIVE MAPPING TO EARTH AND SUN AT VMID.
* INDICATES NO ERROR AVAILABLE, SINCE ONLY TWO ANTENNAS WERE OPERATING.

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

MAY 1980



INFERRED IP MAGNETIC FIELD

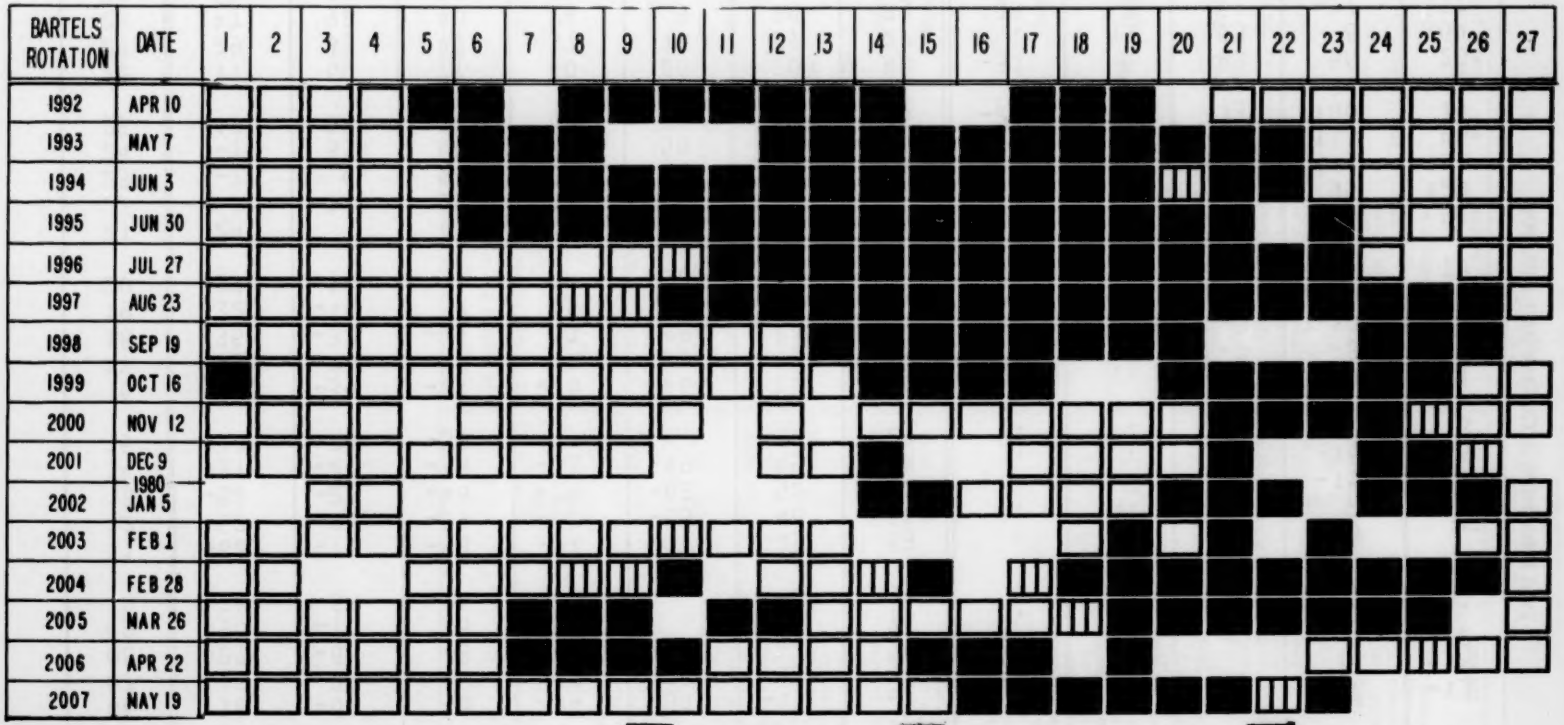
BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1989	1979 JAN 24		-			*		TA			TA		TA							*					-		AT	
1990	FEB 20		TA		-	TA	-		TA		-	TA	-	TA		TA			TA		TA	A*		TA	A*		TA	A*			A*			
1991	MAR 19			AT				AT			T*				*		-		-		-		TA	-		AT			T*	TA		TA	-		A*		-			TA	A*
1992	APR 15			A*	TA	T*	AT				TA	TA		T*					TA		*		-		-	AT	-	TA					A*			-		TA	
1993	MAY 12										-		-		AT					*		TA				AT	AT							-	-		-	-	
1994	JUN 8	TA	TA	A*			TA					-		AT			-						T*	-		TA			TA	T*				AT	T*		-	TA	
1995	JUL 5	TA	TA		AT			TA			AT	A*		TA								AT																		TA
1996	AUG 1				AT		A*		-				TA	-		-					T*									*										
1997	AUG 28					-	A*							AT																											
1998	SEP 24								A*			AT		-			TA																								
1999	OCT 21											T*			TA																										
2000	NOV 17		-	TA	-			AT					*					AT																						
2001	DEC 14						-				TA			TA		-																								
2002	1980 JAN 10								AT			-																												
2003	FEB 6			TA				-					A*																											
2004	MAR 4			AT			TA			AT		-		-																										
2005	MAR 31			TA		AT	AT	AT			AT		TA			T*																								
2006	APR 27			AT					AT	-																														
2007	MAY 24					AT					*		*	-																										

[ ] = definitely towards the sun [ ] = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

Note: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the sun which affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLAS)

	1979						1980				
DAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY
01	41	97	24	-5	-32	-6	16	-37	94	.	-10	-7
02	82	86	21	-8	-27	.	-3	-28	96	.	-26	9
03	137	70	6	-36	-27	.	-24	1	87	50	-21	26
04	115	35	4	-28	-36	-5	-18	.	72	53	.	55
05	104	-33	2	-20	-45	-8	-6	.	72	12	-44	21
06	78	-61	-6	-24	-31	-17	-1	.	57	-1	-17	-13
07	15	-81	-8	-39	-22	-12	18	54	49	1	9	-34
08	-27	-80	-8	-46	-45	-3	35	59	31	-8	4	-42
09	-50	-70	-6	-54	.	-6	75	.	10	.	7	.
10	-76	-68	-16	-45	.	6	99	.	0	9	7	-17
11	-82	-75	-43	-47	.	29	83	.	10	21	5	.
12	-52	-23	-59	-67	-55	46	60	.	11	1	2	.
13	-52	-23	-46	-74	-62	52	32	.	3	-7	-15	.
14	-37	-20	-33	-53	-49	45	44	.	.	.	-18	5
15	-28	-24	-38	-41	.	26	29	.	.	-2	-12	5
16	-42	-30	-61	-26	-6	.	20	.	.	-10	-14	-1
17	-43	-26	-57	-18	20	13	18	.	.	-9	-8	16
18	-35	-32	-41	3	29	41	.	-17	5	-8	-10	50
19	-32	-16	4	15	25	35	.	-8	-13	-18	-5	73
20	-37	-10	.	41	52	35	7	33	3	-42	.	78
21	-24	.	41	46	64	30	6	32	-7	-41	30	92
22	0	-16	55	64	69	.	-6	10	.	-39	95	120
23	-7	6	58	59	48	22	.	3	-32	-24	113	122
24	-7	33	68	65	50	.	.	-12	.	-20	113	46
25	10	58	74	63	35	12	35	-25	.	13	100	14
26	17	69	77	40	26	20	40	-31	6	43	56	25
27	29	83	47	37	16	27	27	.	43	53	8	64
28	47	92	40	24	3	24	23	-34	58	64	-27	57
29	64	90	32	21	-9	39	-18	-26	57	84	-28	62
30	93	82	1	7	-7	37	.	-13		75	-16	49
31		53	-1		-22		.	29		25		49

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

BOULDER GEOMAGNETIC SUBSTORM LOG

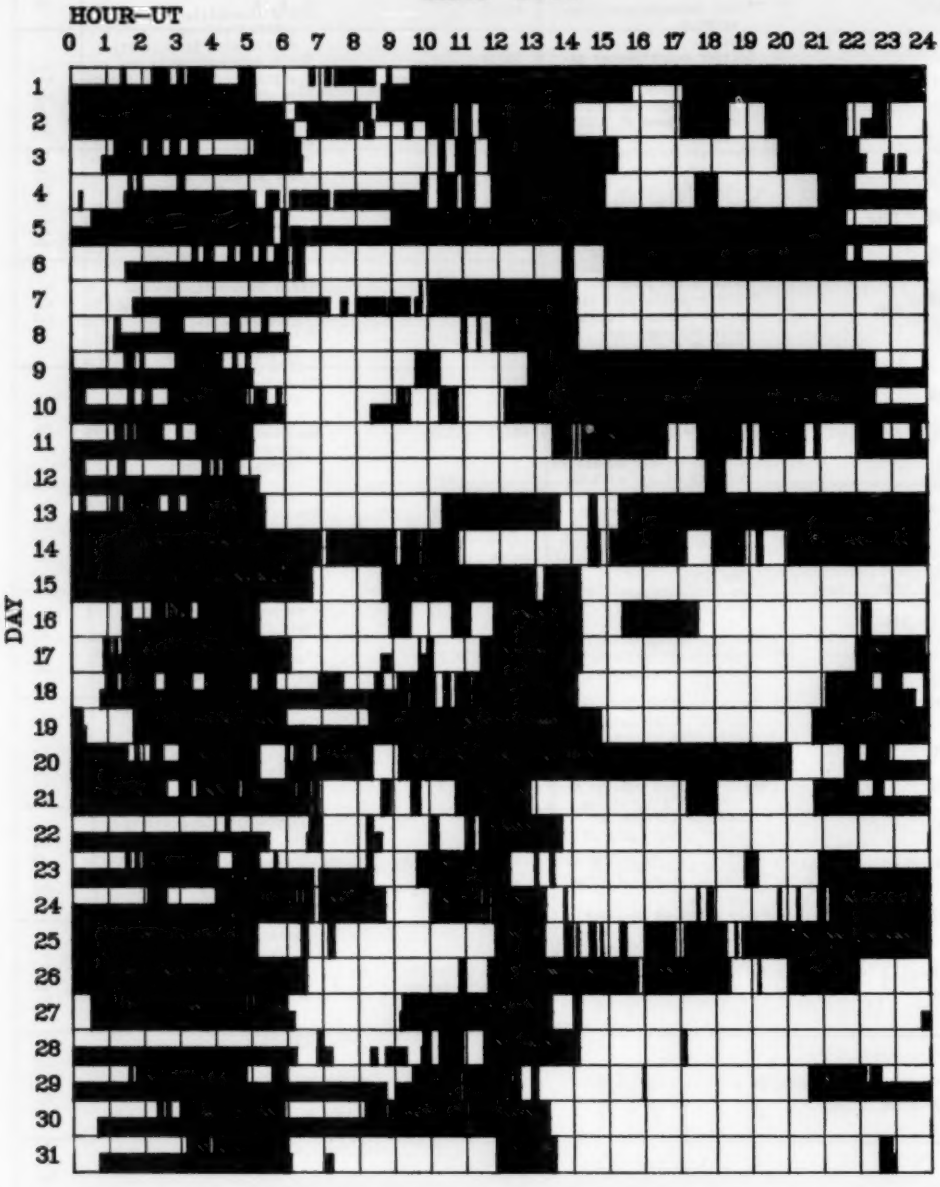
MAY 1980

DATE	ONSET TIME	DIR	COMMENTS
05/01			Field intermittently unsettled.
	1045	West	Weak SS.
			Boulder magnetometer exhibited a magnetic crochet from 1914-1932 UT. Maximum deflection was 19 gamma at 1918 UT.
05/02			Field slightly unsettled.
05/03			Field slightly unsettled.
05/04			Field intermittently unsettled.
	1305		Weak SS, slow onset.
05/05	1340		Weak SS, slow onset Norman Wells to Arctic Village with slow expansion northward. Field unsettled after 2000 UT.
05/06			Field unsettled all day.
	0645		Several intensifications with recovery near 0900 UT.
	1125		Slow onset, recovery near 1600 UT.
05/07			Small positive impulse H-component all mid/low latitude stations at 0800 UT, and again at 1150 UT. Field unsettled balance of day with no distinctive SS activity.
05/08			Field unsettled through 0800 UT with no distinctive SS activity.
05/09			Field unsettled throughout the day.
	0940	West	Slow onset, several intensifications.
	1440		Moderate positive impulse H-component all mid/low latitude stations at 1930 UT.
05/10			Field unsettled through 0130 UT, then quiet until 1800 UT when field became slightly unsettled.
05/11			Small positive impulse H-component all mid/low latitude stations at 0125 UT, and again at 0155 UT. Field very active after 0600 UT with no distinctive SS activity.
05/12			Field remained very active through 1200 UT and unsettled the balance of the day.
	0330	East	
05/13			Field intermittently unsettled with no distinctive SS activity.
05/14			Field intermittently unsettled.
	1735		Slow onset.
05/15	0530	East	
	0630	West	
05/16	0535		Weak SS.
05/17			Quiet day.
05/18			Field slightly unsettled after 0800 UT.
05/19			Field unsettled after 0700 UT.
	1405	West	Slow expansion northward from College to Cape Parry.
05/20			Field intermittently unsettled with no distinctive SS activity.
05/21			Quiet day becoming slightly unsettled after 2000 UT.
05/22			Field unsettled 0600-1800 UT with no distinctive SS activity.
05/23	1205		Weak positive impulse H-component all mid/low latitude stations.
	1430		Slow expansion northward through Alaskan Chain.
05/24	0800		Gradual onset to active field conditions.
	1800		Moderate SS.
05/25	0730		Onset of moderate ring current and minor magstorm conditions. Field recovery near 1700 UT.
05/26			Field intermittently unsettled with no distinctive SS activity.
05/27			Field slightly unsettled.
05/28			Field intermittently unsettled with no distinctive SS activity.
05/29	1830		Weak positive impulse H-component all mid/low latitude stations. Field unsettled balance of day.
05/30			Field unsettled all day. No distinctive SS activity.
05/31			Field strongly unsettled all day.
	0455	East	
	1455		
	2130		Moderate positive impulse H-component mid/low latitude stations.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

MAY 1980



Observatories included in total patrol:

Athens	Bucharest	Holloman	Istanbul	Palehua	Wendelstein
Big Bear	Catania	Huancayo	Manila	Ramey	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SGD 430 Part I (Prompt)

APRIL 1980 DATA

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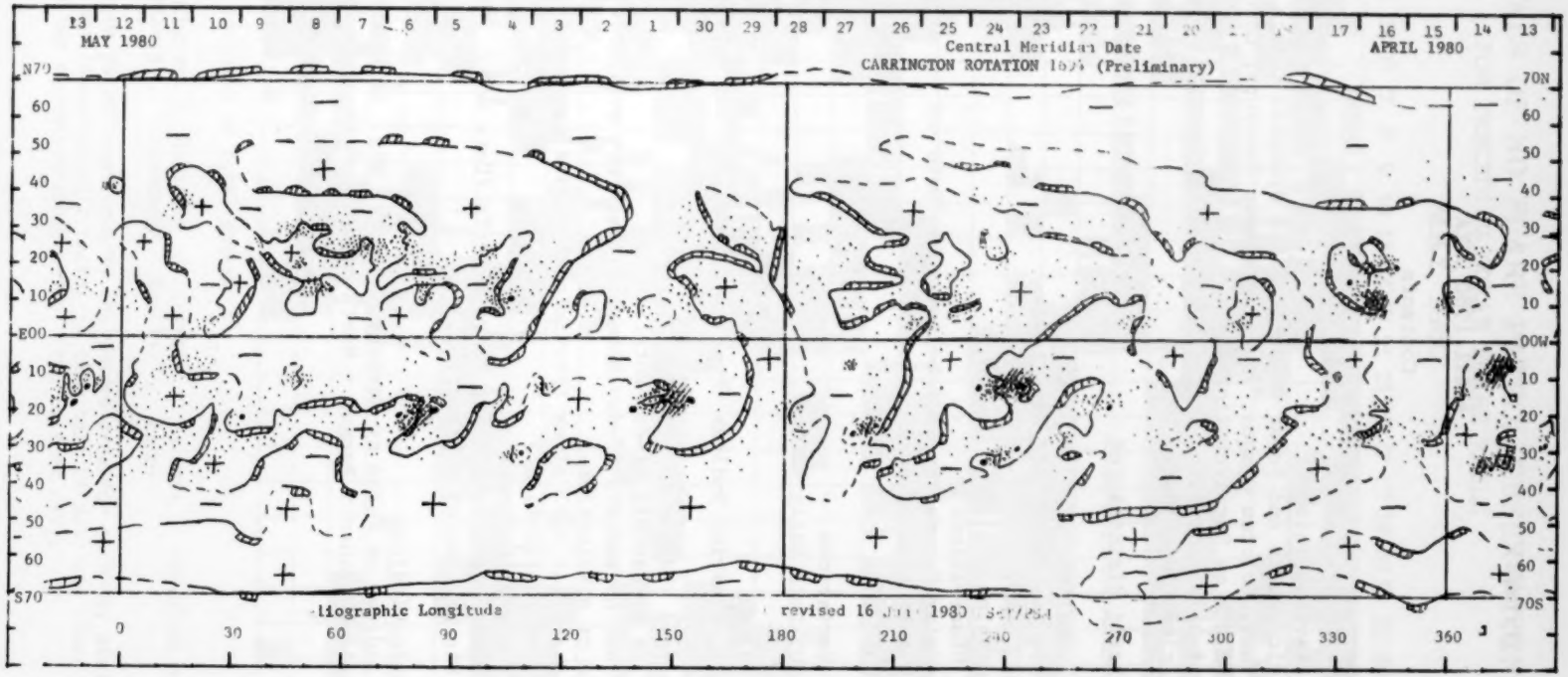
Hα SYNOPTIC CHART

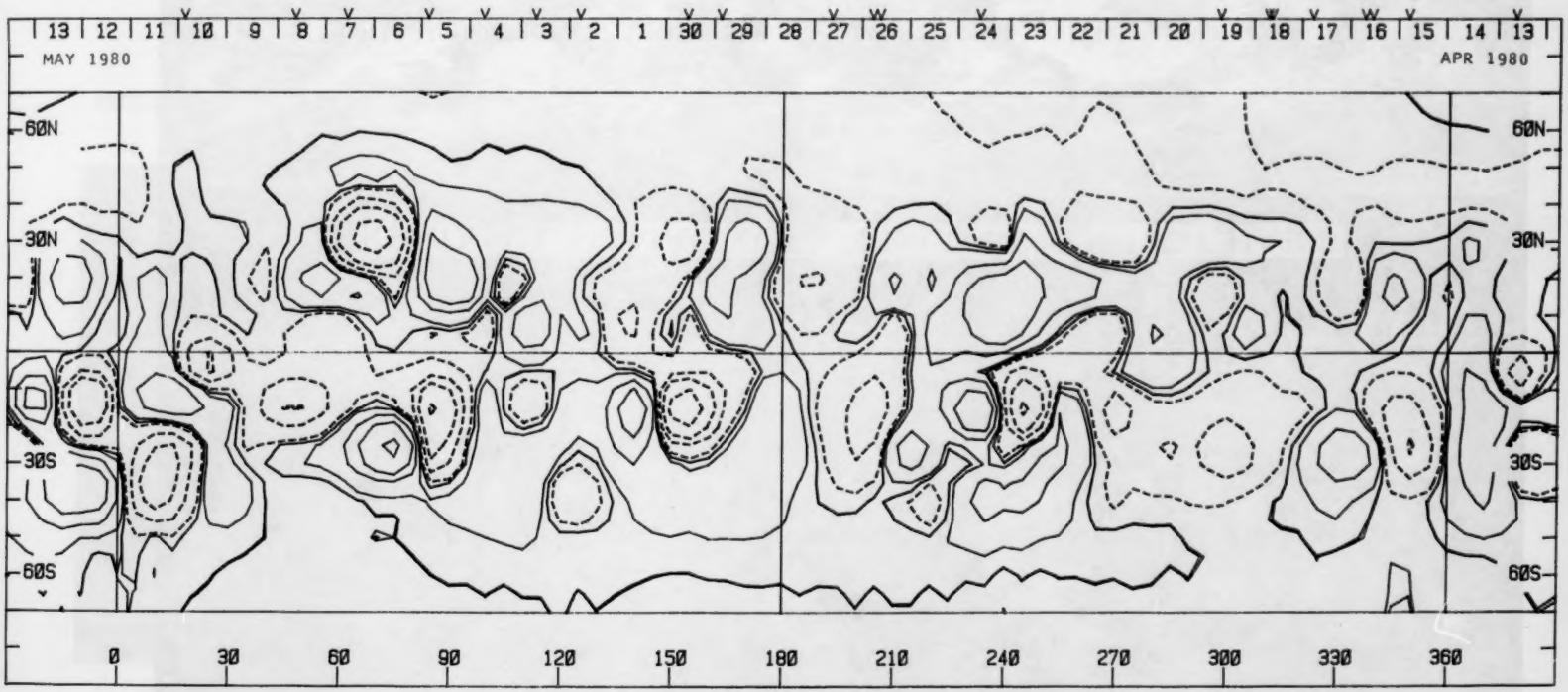
CARRINGTON ROTATION 1694 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1694

Stanford Solar Observatory

0,±100,200,500... μT

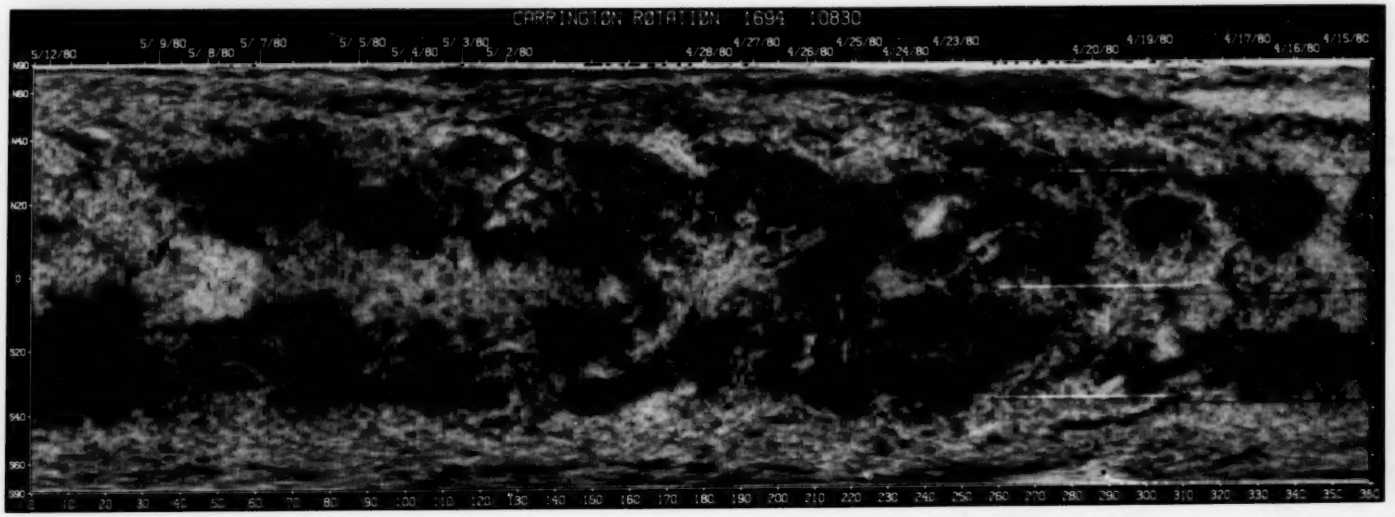


KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART

HELIUM 10830Å SYNOPTIC MAPS

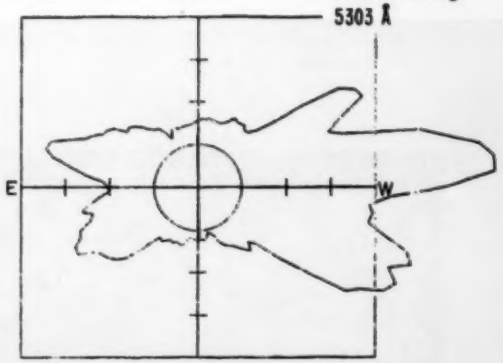
CARRINGTON ROTATION 1694

KITT PEAK NATIONAL OBSERVATORY



APRIL 1, 1980 (P=-26.21, B_o=-6.52, L_o=186.46)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1526 UT

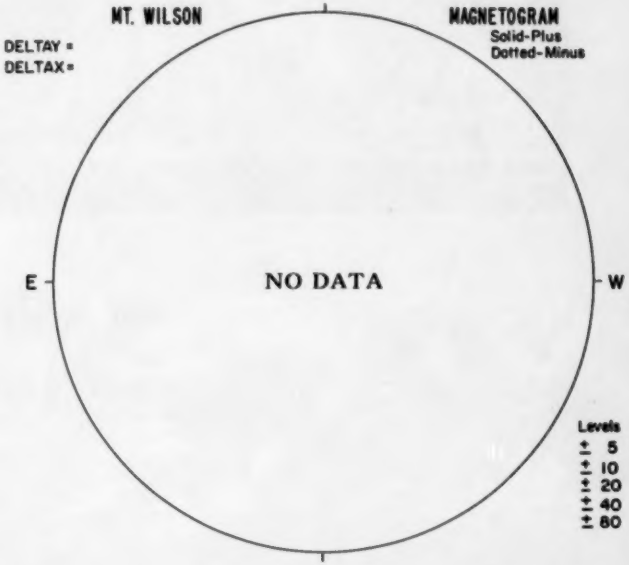
Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1522 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =

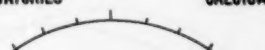


Sp

O1
BIG BEAR Np

Hα SAN FERNANDO Np SUNSPOTS

HALE OBSERVATORIES Np CALCIUM REPORT

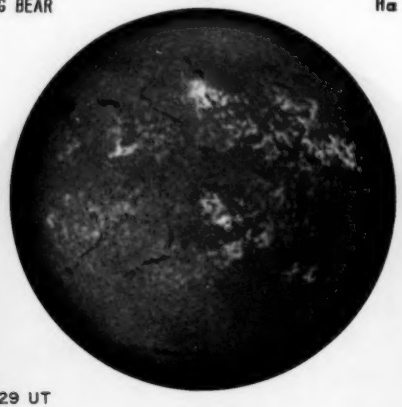


01

BIG BEAR

Np

Hα



E W

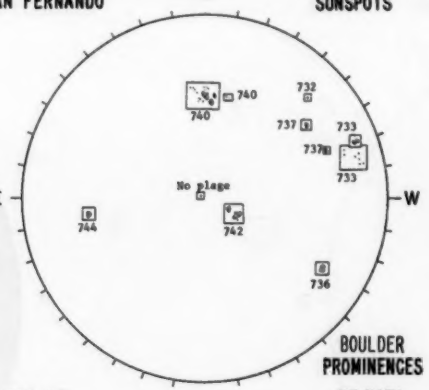
1529 UT

Sp

SAN FERNANDO

Np

SUNSPOTS



E W

1730 UT

Sp

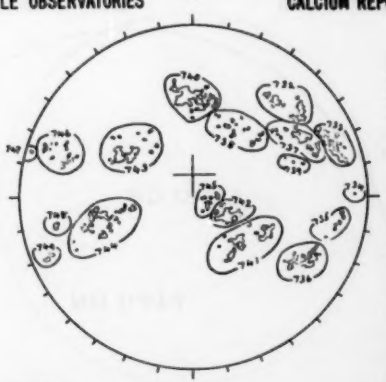
BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES

Np

CALCIUM REPORT



E W

2227 UT

Sp

POOR	JA
32- 1500-3.0	
33- 2000-3.0	
35- 0400-3.0	
36- 1200-3.0	
37- 1300-3.0	
38- 0700-2.5	
40- 2700-3.5	
41- 1500-3.0	
42- 1000-3.5	
43- 1700-3.5	
44- 1800-3.0	
45- 0400-3.0	
47- 0100-3.0	
48- 0200-3.0	
49- 0300-2.5	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E W

WEATHER

---- UT

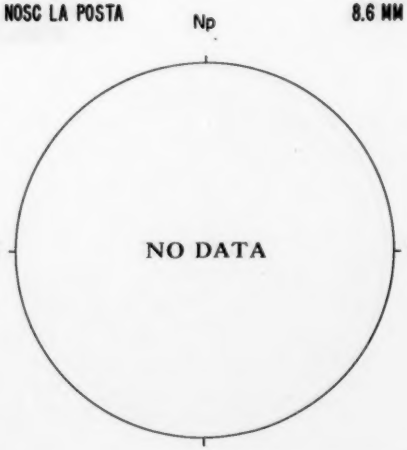
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E W

Sp

Ant. Temp. Unit 100° K

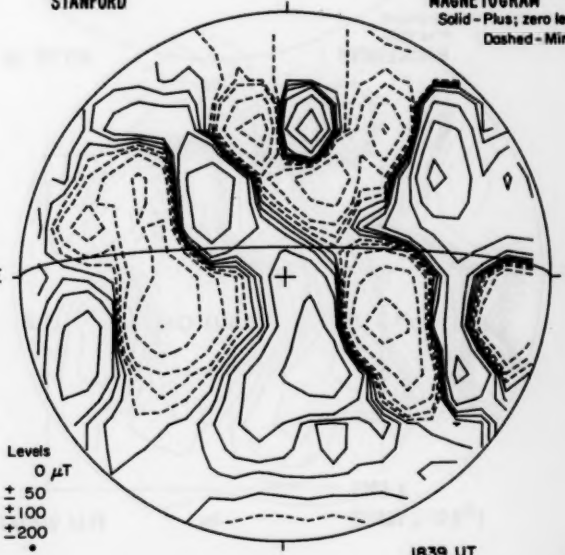
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1839 UT

Sp

53

Apr 80

APRIL 2, 1980 (P=-26.25, B_o=-6.46, L_o=173.27)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

1453 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

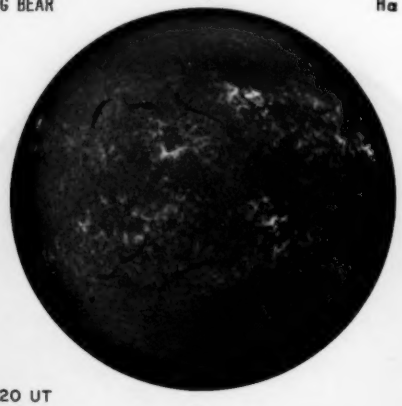
Sp

02

BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

02

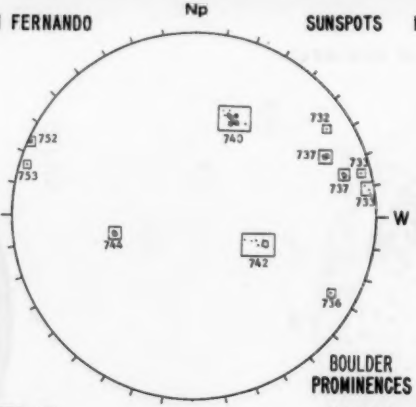
BIG BEAR Np Hα



E W

2020 UT Sp

SAN FERNANDO Np SUNSPOTS



E W

1732 UT Sp

BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES Np CALCIUM REPORT

NO DATA

E W

Sp

NOSC LA POSTA Np 2.0 CM

NO DATA

WEATHER

E W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

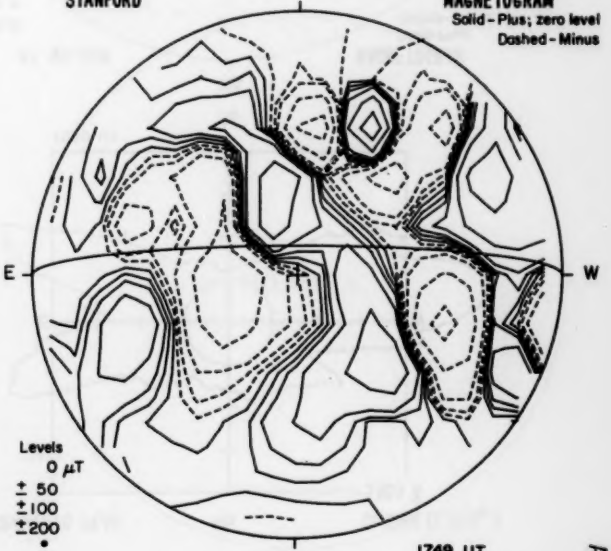
E W

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



Levels

0 μT

± 50

±100

±200

E W

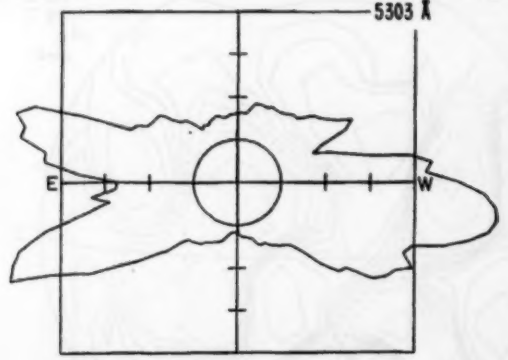
Sp 1749 UT

55

Apr 80

APRIL 3, 1980 (P=-26.28, B_o=-6.40, L_o=160.08)

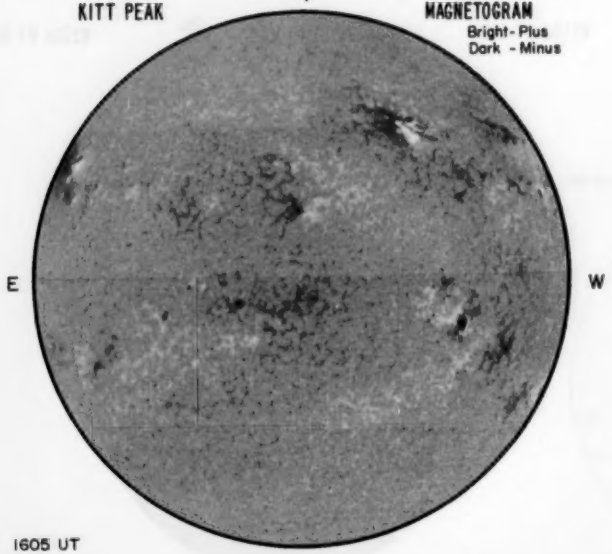
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1539 UT

Sp

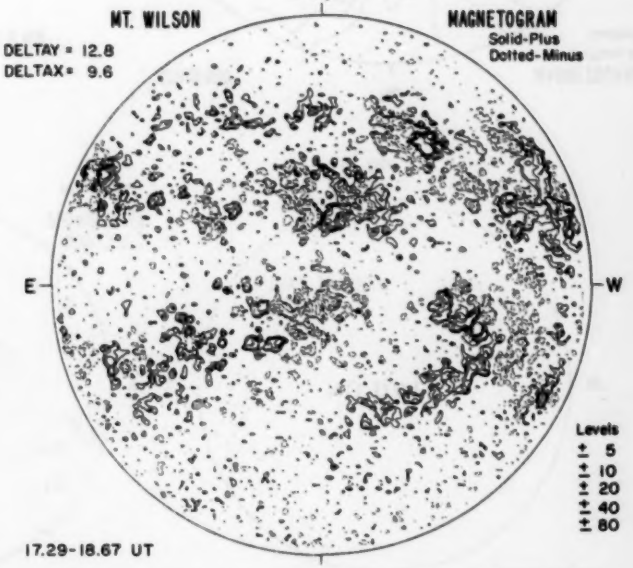
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1605 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.8
DELTAX = 9.6



17.29-18.67 UT

Sp

03
BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

03

BIG BEAR

Np

Hα

E W

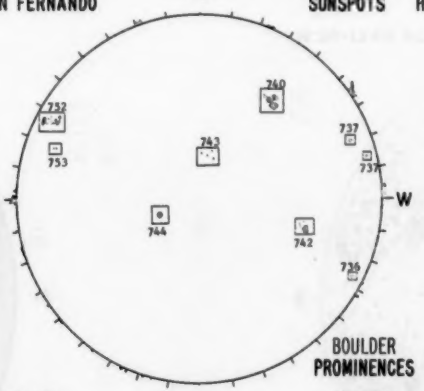
1618 UT

Sp

SAN FERNANDO

Np

SUNSPOTS



E W

1730 UT

Sp

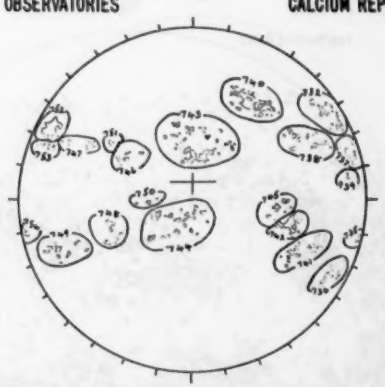
BOULDER PROMINENCES

1510 UT

HALE OBSERVATORIES

Np

CALCIUM REPORT



E W

1828 UT

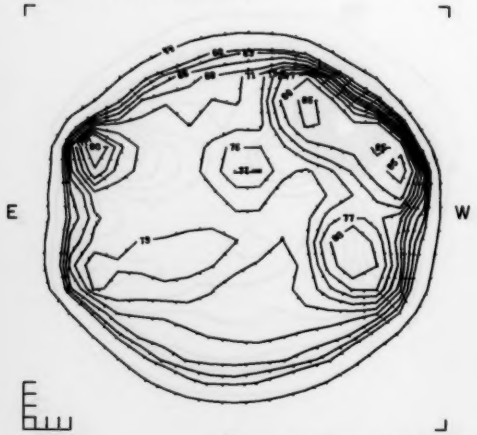
Sp

FAIR	JA
32-	1100-3.0
35-	0200-2.5
36-	0800-3.0
37-	1000-3.0
38-	0800-2.5
40-	2200-3.0
41-	1300-3.0
42-	1100-3.0
43-	1800-3.0
44-	1200-3.0
45-	0400-2.5
47-	0400-2.5
48-	0500-3.0
49-	0700-2.5
52-	1500-4.0
53-	0300-3.5
54-	0300-3.0

NOSC LA POSTA

Np

2.0 CM



E W

1610 UT

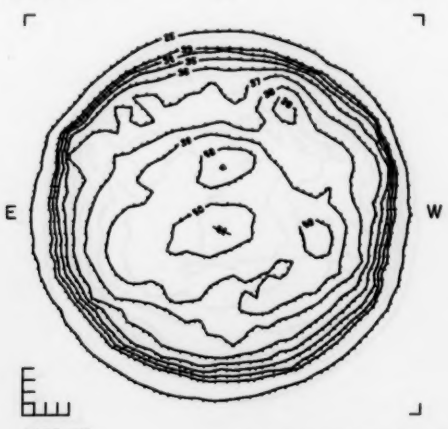
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E W

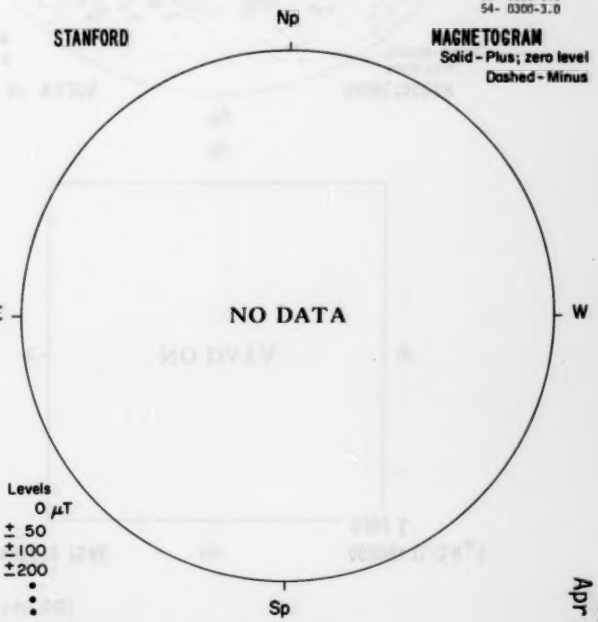
1637 UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np



E W

Levels

0 μT

± 50

±100

±200

Sp

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

57

Apr 80

APRIL 4, 1980 (P=-26.30, B_o=-6.34, L_o=146.88)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å
E NO DATA W
Sp

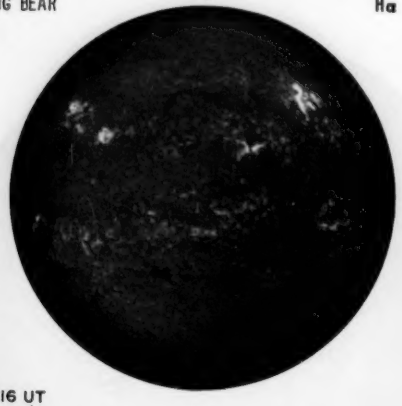
KITT PEAK Np MAGNETOGRAM
Bright-Plus
Dark - Minus
E W
1600 UT
Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.9
DELTAX = 9.6
E W
Levels
± 5
± 10
± 20
± 40
± 80
16.38-17.66 UT
Data Incomplete
Sp

04
BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

04

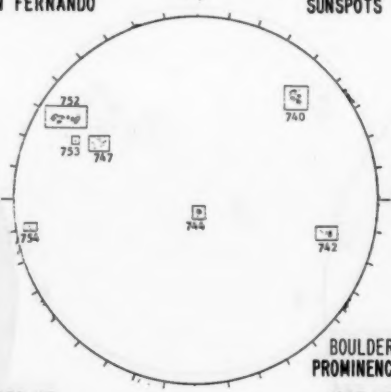
BIG BEAR Np Hα



E W

1616 UT Sp

SAN FERNANDO Np SUNSPOTS



E W

1950 UT Sp

BOULDER PROMINENCES

1405 UT

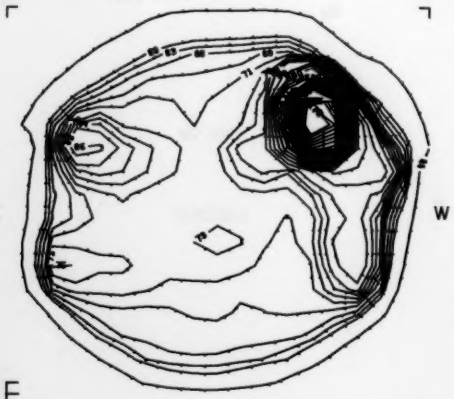
HALE OBSERVATORIES Np CALCIUM REPORT

NO DATA

E W

Sp

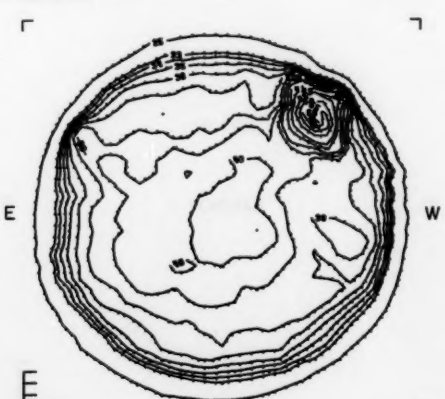
NOSC LA POSTA Np 2.0 CM



E W

1537 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



E W

1603 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

NO DATA

E W

Levels 0 μT

± 50

±100

±200

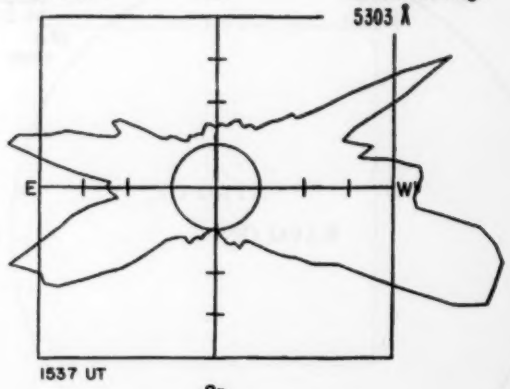
Sp

59

Apr 80

APRIL 5, 1980 (P=-26.31, B_o=-6.28, L_o=133.68)

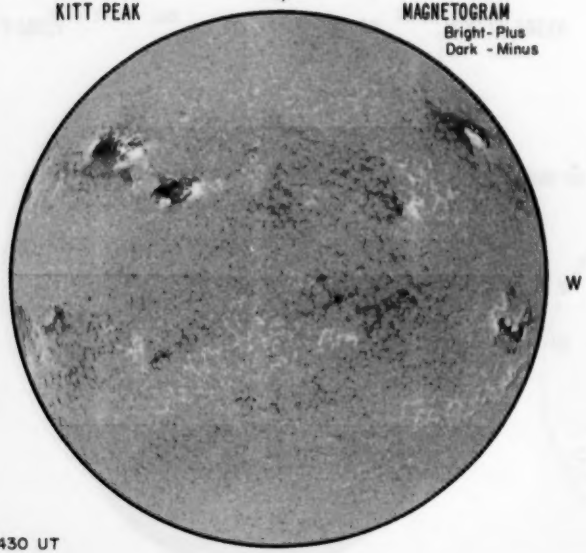
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1537 UT

Sp

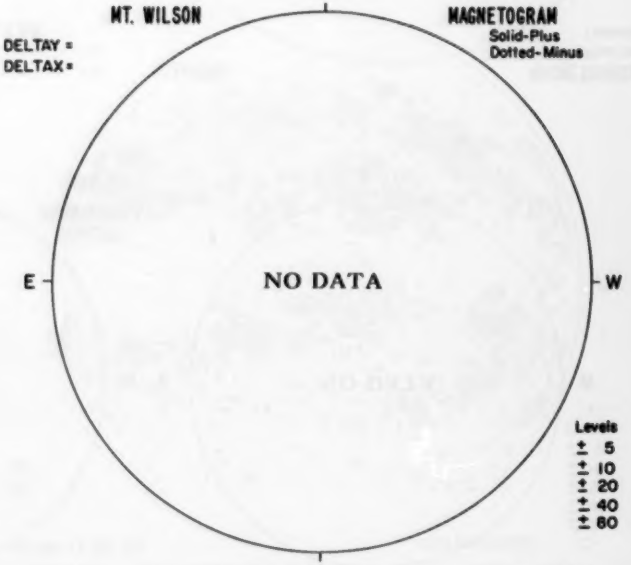
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1430 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =

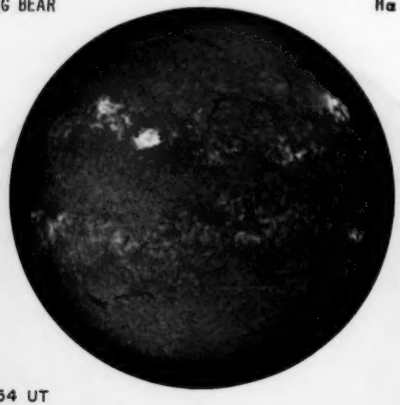


Sp

05
BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

05

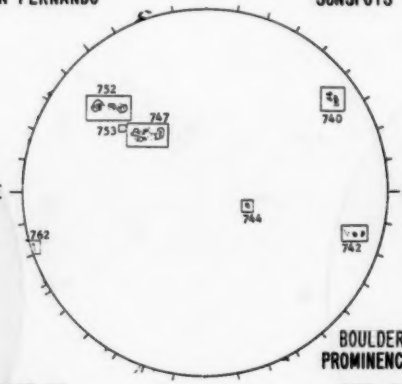
BIG BEAR Np Hα



E W

1854 UT Sp

SAN FERNANDO Np SUNSPOTS



E W

1845 UT Sp

BOULDER PROMINENCES

1437 UT

HALE OBSERVATORIES Np CALCIUM REPORT

NO DATA

E W

Sp

NOSC LA POSTA Np 2.0 CM

NO DATA

E W

SCHEDULE

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E W

SCHEDULE

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

NO DATA

E W

Levels

0 μT

± 50

±100

±200

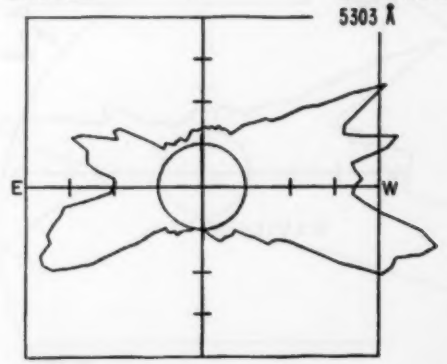
Sp

61

Apr 80

APRIL 6, 1980 (P=-26.32, B_o=-6.22, L_o=120.49)

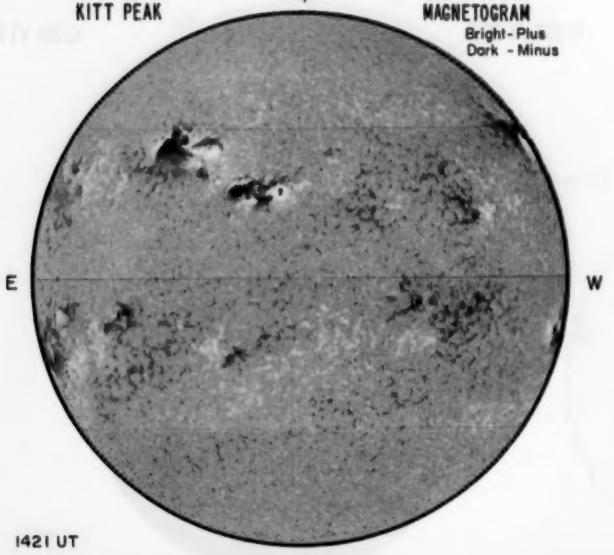
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1412 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1421 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

Sp

06
BIG BEAR Np Hα

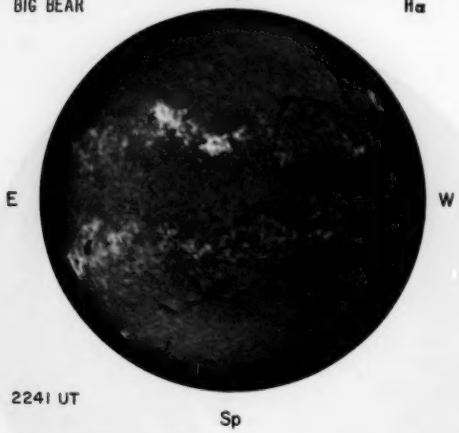
SAN FERNANDO Np

SUNSPOTS HALE OBSERVATORIES Np

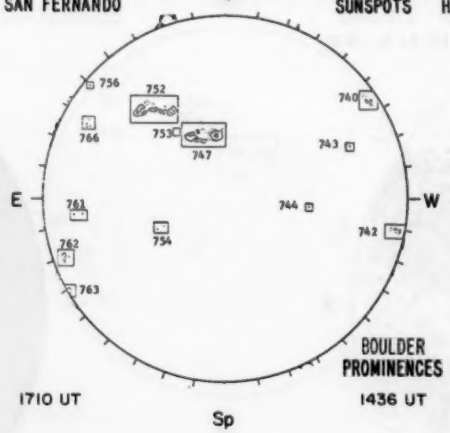
CALCIUM REPORT

06

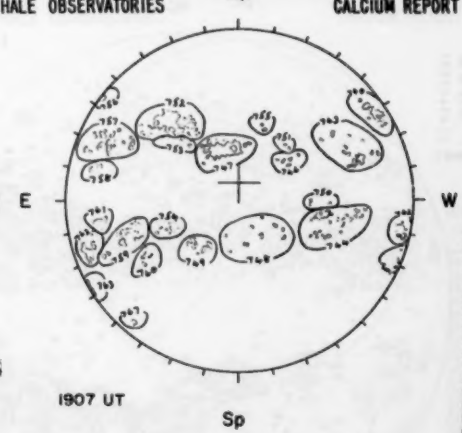
BIG BEAR



SAN FERNANDO



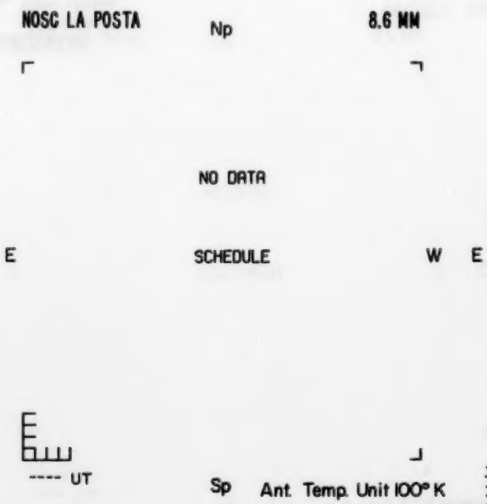
HALE OBSERVATORIES



POOR	JA
40- 1500-3.0	
41- 0200-2.5	
42- 1000-3.0	
43- 1200-3.0	
44- 1400-2.5	
47- 2200-4.0	
49- 0400-3.0	
50- 0200-2.5	
52- 3500-4.0	
53- 0300-3.0	
54- 0300-3.0	
56- 0400-3.0	
57- 1500-3.0	
58- 0300-2.5	
59- 1300-3.5	
60- 0200-2.5	
61- 0400-3.0	
62- 1300-3.0	
63- 0500-2.5	
67- 0200-3.0	

NOSC LA POSTA

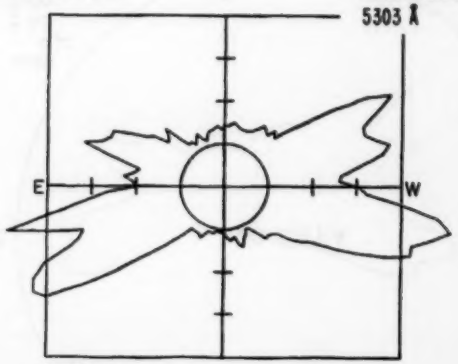
NOSC LA POSTA



STANFORD

APRIL 7, 1980 (P=-26.32, B_o=-6.15, L_o=107.29)

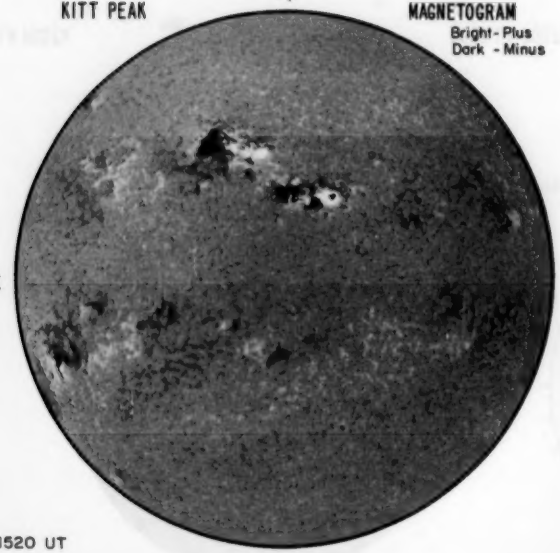
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



2346 UT

Sp

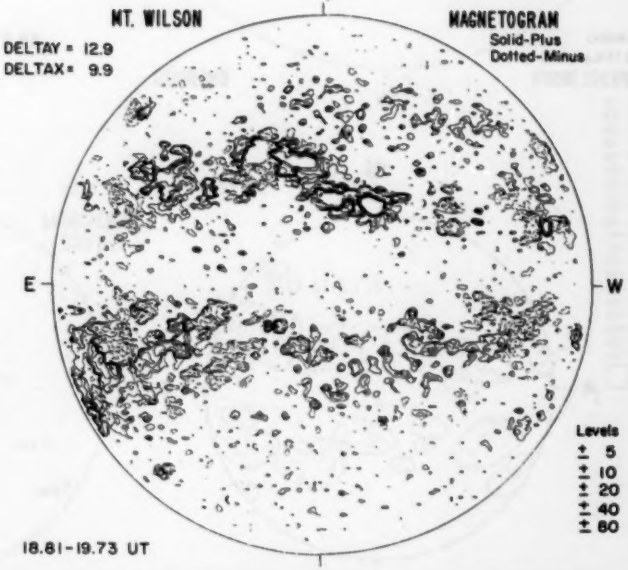
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1520 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.9
DELTAX = 9.9



18.61-19.73 UT

Sp

07
BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

07

BIG BEAR

Np

E W

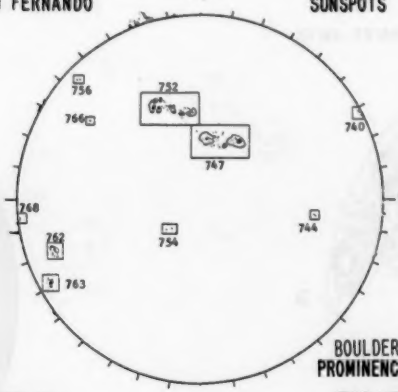
2333 UT

Sp

Hα

SAN FERNANDO

Np



E W

1710 UT

Sp

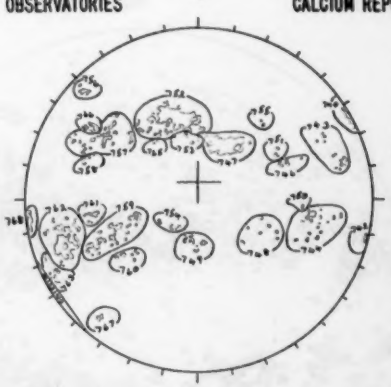
SUNSPOTS

BOULDER PROMINENCES

1742 UT

HALE OBSERVATORIES

Np



E W

2307 UT

Sp

CALCIUM REPORT

FAIR	JA
40- 0600-2.5	
43- 0600-2.5	
45- 0200-2.5	
47- 2500-3.5	
49- 0300-3.0	
52- 3600-4.0	
53- 0200-3.0	
54- 0200-3.0	
56- 0400-3.5	
57- 1500-3.0	
59- 1600-3.0	
61- 0300-3.0	
62- 3200-3.5	
63- 0600-3.5	
65- 0100-3.0	
66- 0400-3.0	
67- 0200-3.0	
68- 0600-3.5	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E EQUIPMENT W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E EQUIPMENT W

---- UT

Sp

Ant. Temp. Unit 100° K

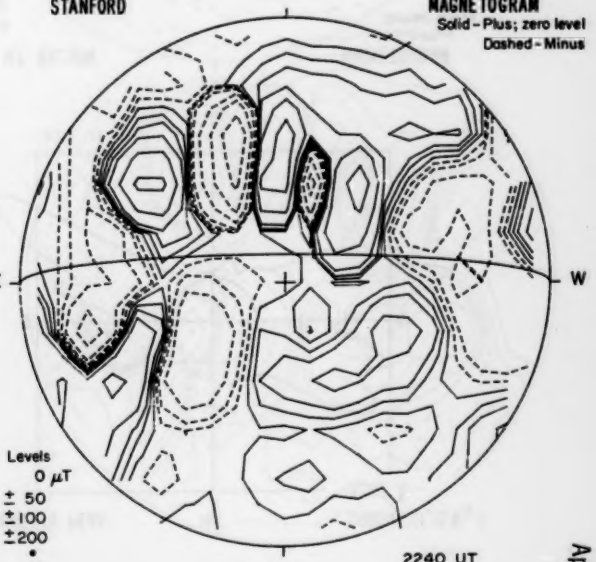
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



Levels

0 μT

± 50

±100

±200

E W

2240 UT

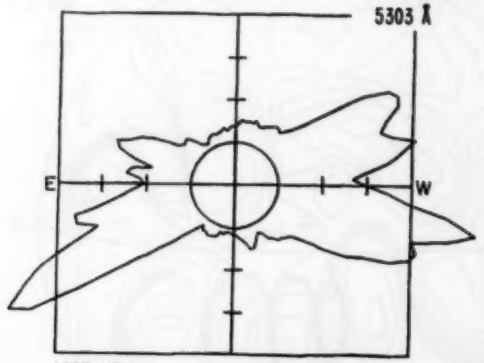
Sp

65

Apr 80

APRIL 8, 1980 (P=-26.32, B_o=-6.09, L_o=94.09)

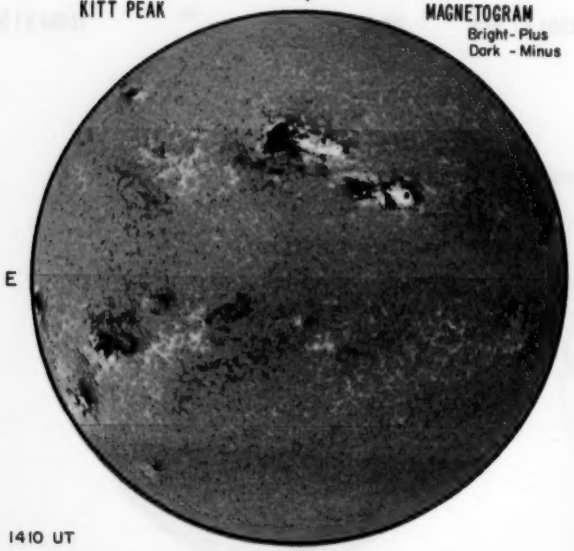
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1423 UT

Sp

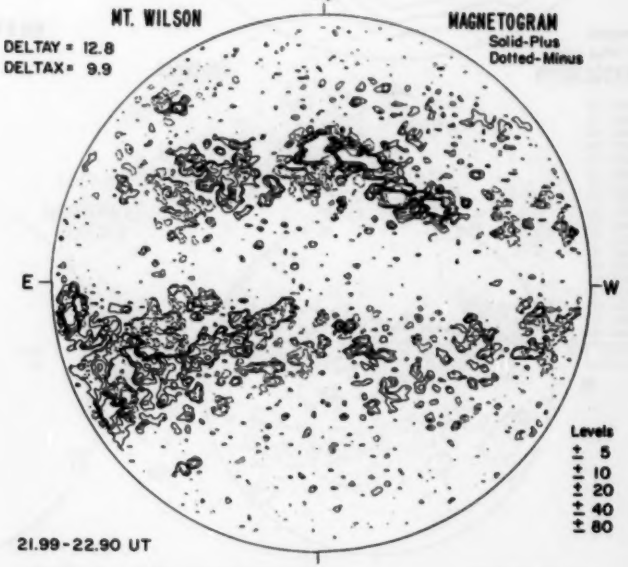
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1410 UT

Sp

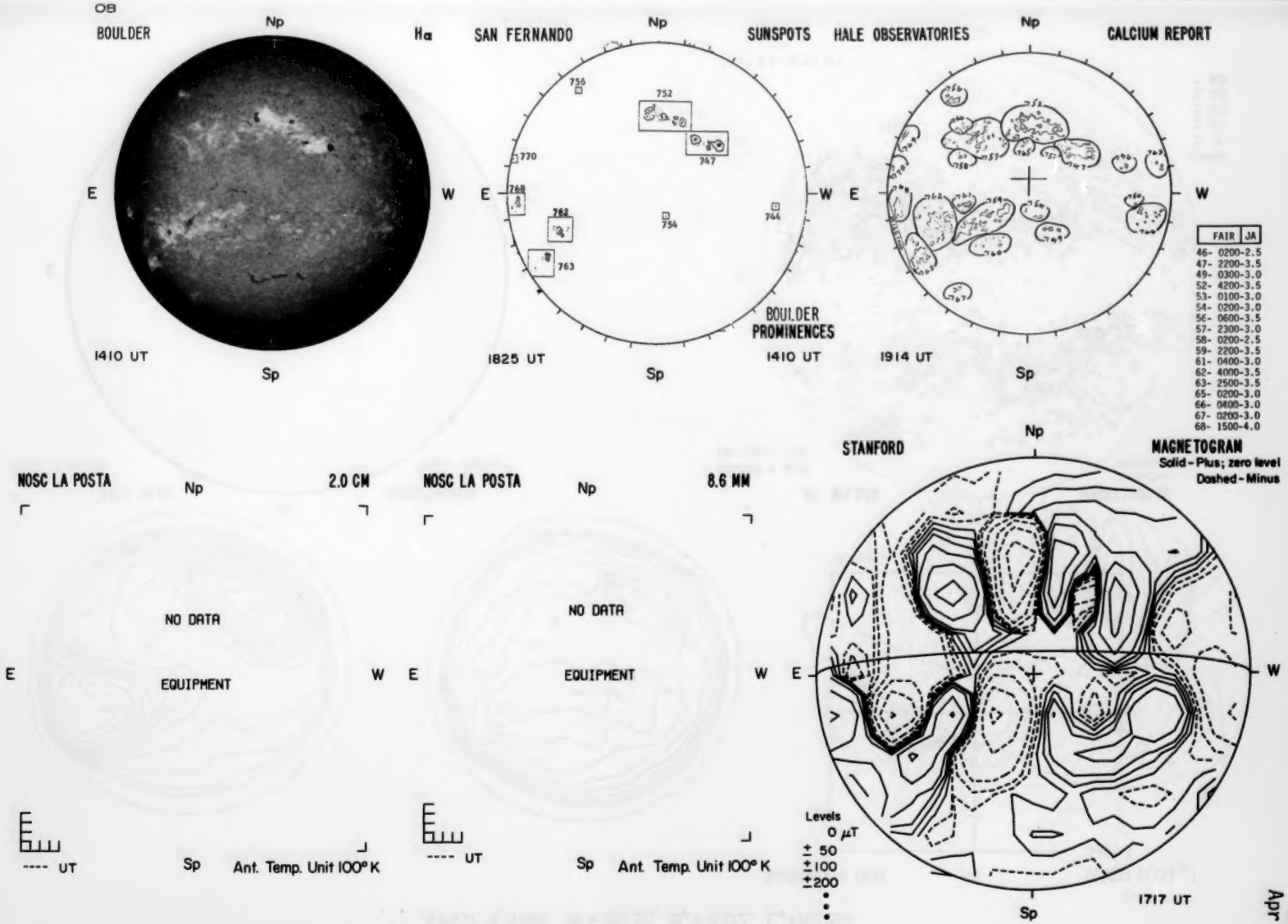
Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.8
DELTAX = 9.9



21.99-22.90 UT

Sp

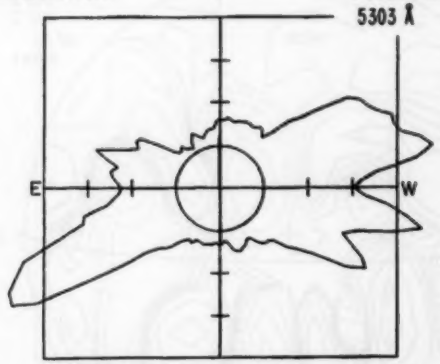
OB
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT


OB
BOULDER
Np
Hα
E
W
1410 UT
Sp
SAN FERNANDO
SUNSPOTS
Np
756
752
747
770
768
762
763
754
744
E
W
BOULDER
PROMINENCES
1825 UT
Sp
1410 UT
HALE OBSERVATORIES
CALCIUM REPORT
Np
E
W
1914 UT
Sp
FAIR JA
46- 0200-2.5
47- 2200-3.5
49- 0300-3.0
52- 4200-3.5
53- 0100-3.0
54- 0200-3.0
56- 0600-3.5
57- 2300-3.0
58- 0200-2.5
59- 2200-3.5
61- 0400-3.0
62- 4000-3.5
63- 2500-3.5
65- 0200-3.0
66- 0400-3.0
67- 0200-3.0
68- 1500-4.0
NOSC LA POSTA
Np
2.0 CM
NO DATA
E
EQUIPMENT
W
---- UT
Sp
Ant. Temp. Unit 100° K
NOSC LA POSTA
Np
8.6 MM
NO DATA
E
EQUIPMENT
W
---- UT
Sp
Ant. Temp. Unit 100° K
STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Levels
0 μT
± 50
± 100
± 200
Sp
1717 UT

67
Apr 80

APRIL 9, 1980 (P =-26.30, B_o =-6.02, L_o = 80.89)

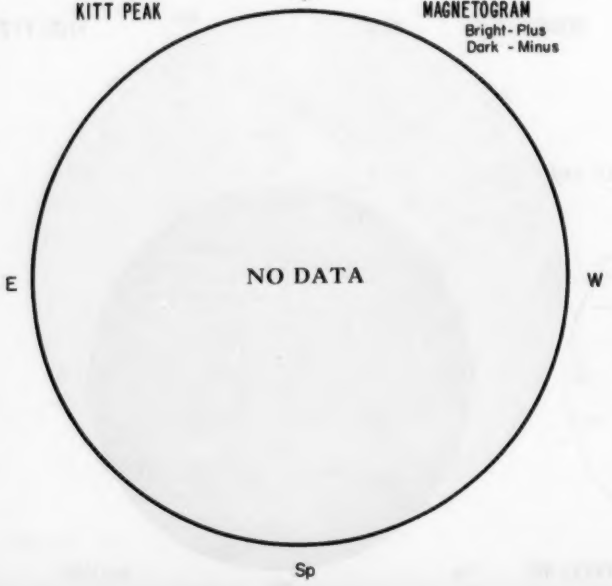
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1459 UT

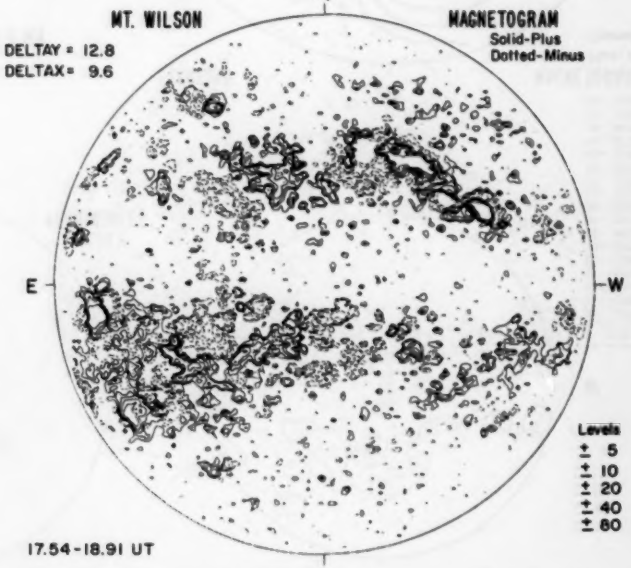
Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.8
DELTAX = 9.6



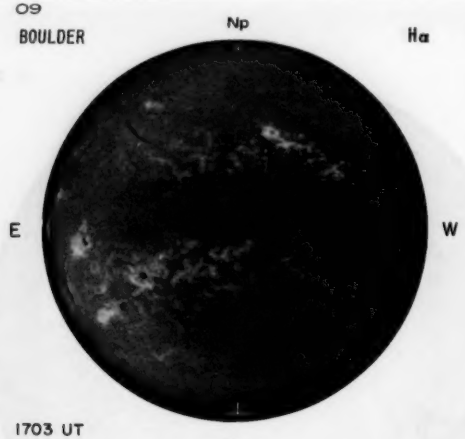
17.54 - 18.91 UT

Sp

09
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

09

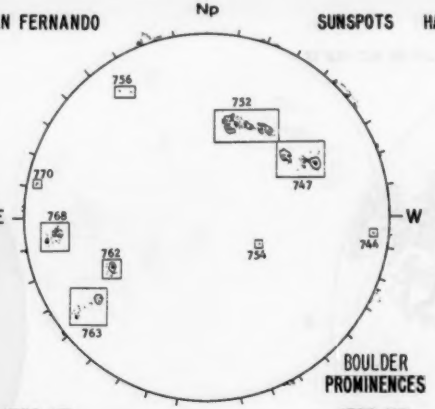
BOULDER



1703 UT

Hα

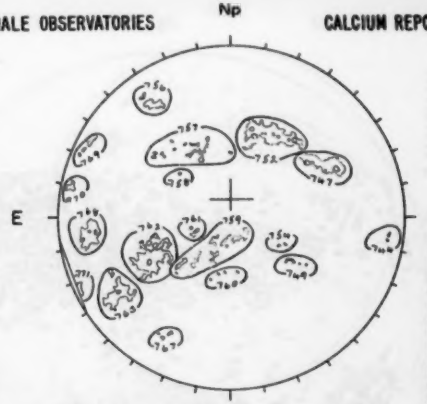
SAN FERNANDO



1730 UT

SUNSPOTS

HALE OBSERVATORIES



1703 UT

BOULDER PROMINENCES

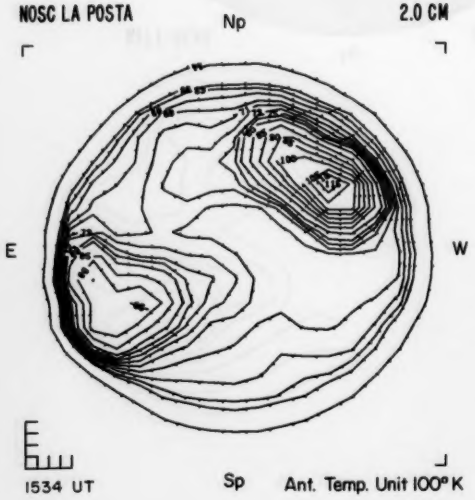
1909 UT

CALCIUM REPORT

	FAIR	JA
47-	2300	3.0
49-	0200	3.0
52-	3700	3.5
54-	0100	2.5
56-	1000	3.5
57-	1100	3.0
59-	1400	3.5
61-	0300	3.0
62-	4100	3.5
63-	2600	3.5
67-	0200	3.0
68-	3000	3.5
69-	0600	2.5
70-	0600	3.0
71-	0700	2.5

NOSC LA POSTA

2.0 CM

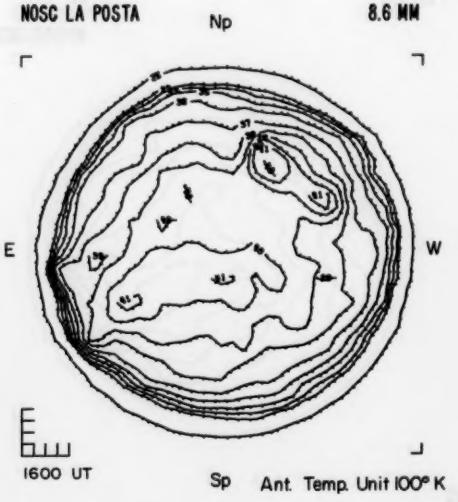


1534 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA

8.6 MM



1600 UT

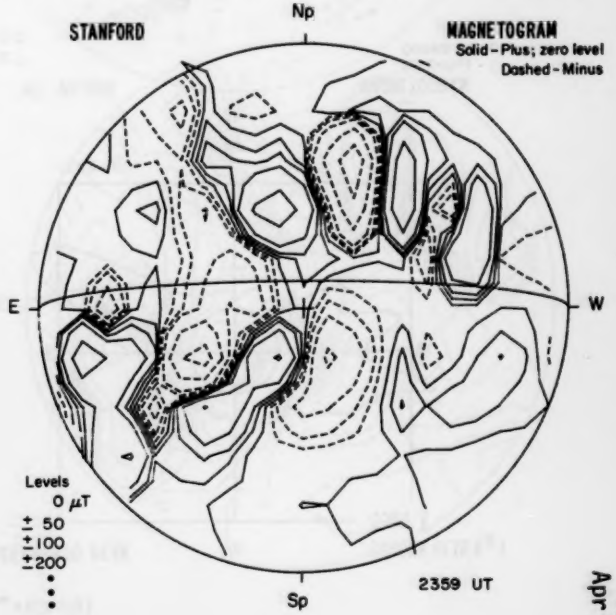
Ant. Temp. Unit 100° K

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



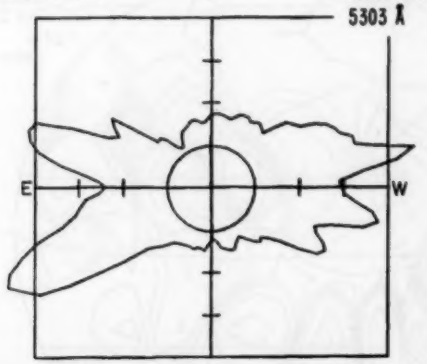
2359 UT

69

Apr 80

APRIL 10, 1980 (P = -26.28, B_o = -5.95, L_o = 67.69)

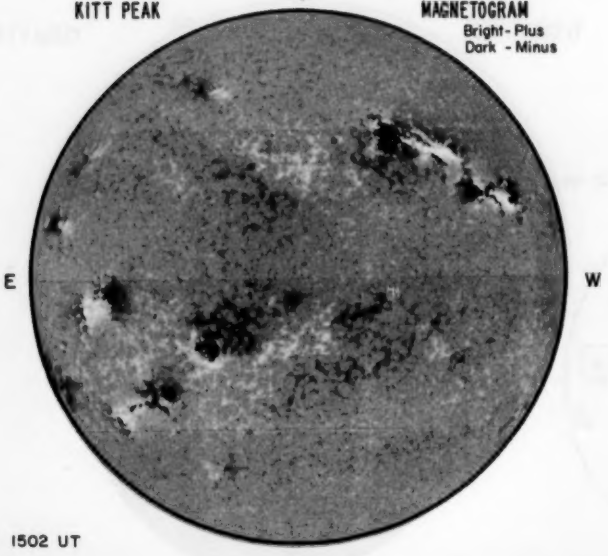
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1542 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



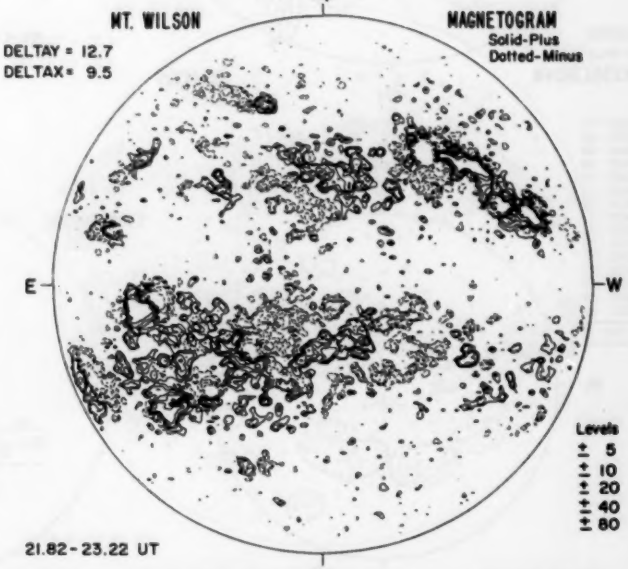
1502 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.5



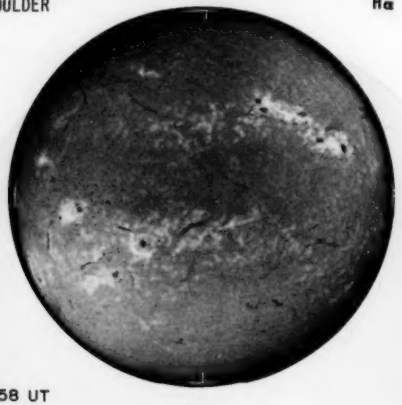
21.82 - 23.22 UT

Sp

10
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

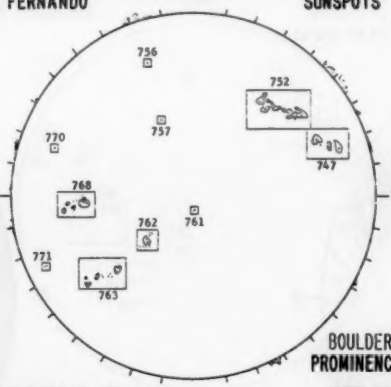
10

BOULDER Np Hα



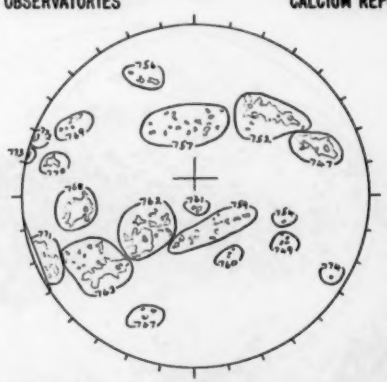
1558 UT Sp

SAN FERNANDO Np SUNSPOTS



11 APR/0018 UT Sp

HALE OBSERVATORIES Np CALCIUM REPORT

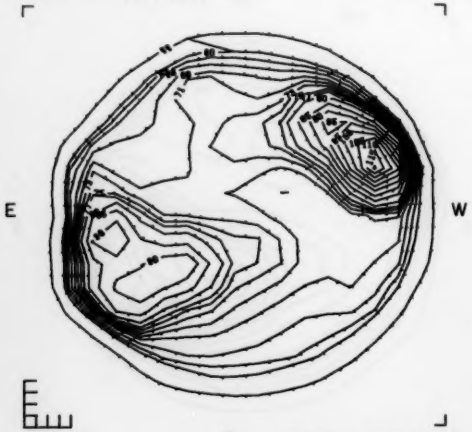


1932 UT Sp

BOULDER PROMINENCES 1558 UT

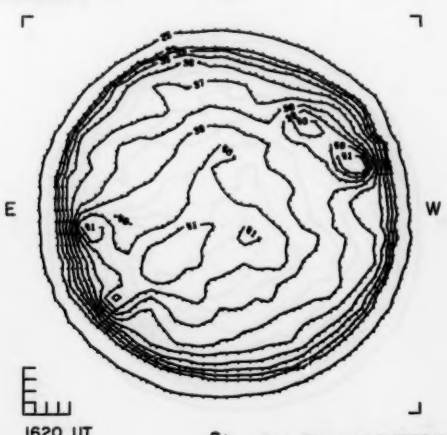
POOR	JA
47- 2400-3.0	
49- 0200-2.5	
52- 3600-3.5	
54- 0100-2.5	
56- 0700-3.0	
57- 1100-2.5	
59- 0900-3.0	
61- 0200-2.5	
62- 4000-3.5	
83- 4600-3.5	
67- 0200-2.5	
68- 3900-4.0	
69- 0500-3.0	
70- 0600-3.5	
71- 3900-3.0	
72- 0300-3.0	
73- 0200-2.5	

NOSC LA POSTA Np 2.0 CM



1551 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

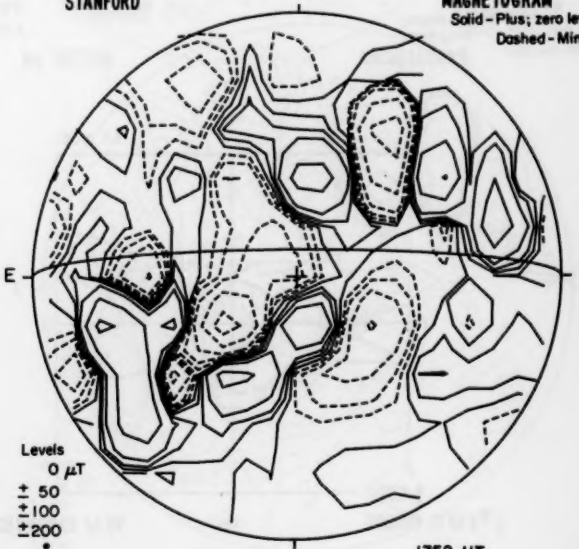


1620 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



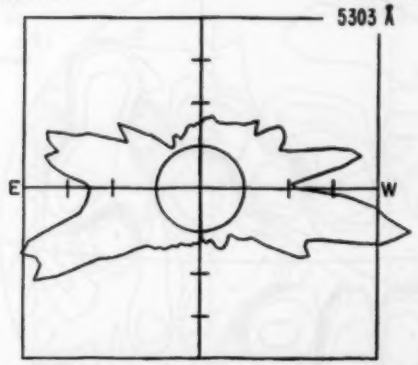
Levels
0 μT
± 50
±100
±200

1752 UT Sp

71
Apr 80

APRIL 11, 1980 (P=-26.26, B_o=-5.88, L_o=54.49)

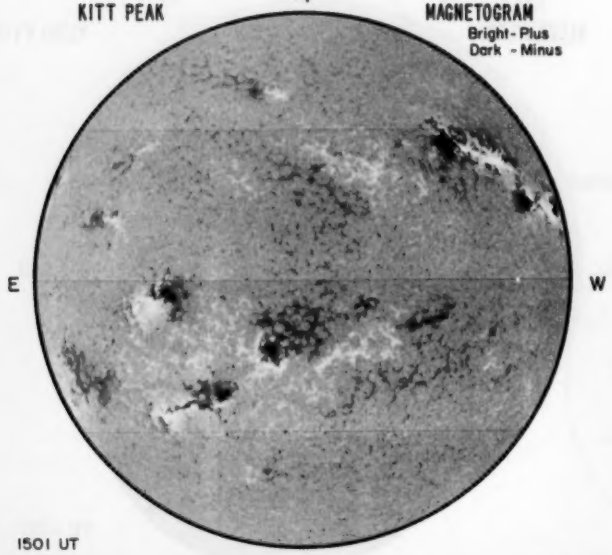
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1526 UT

Sp

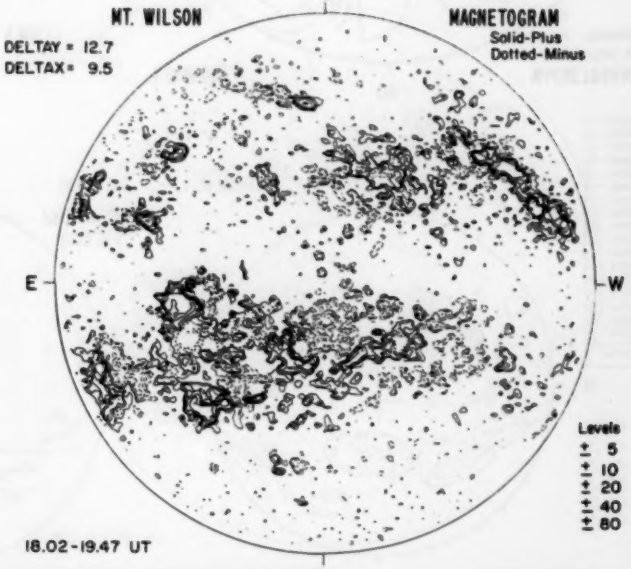
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1501 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.5



18.02-19.47 UT

Sp

11

Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

Sp

Sp

11

Np

Hα

E

NO DATA

W

Sp

SAN FERNANDO

Np

SUNSPOTS

E

W

1700 UT

Sp

BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES

Np

CALCIUM REPORT

E

W

1621 UT

Sp

GOOD	JA
47- 2200-2.5	
52- 3800-2.5	
56- 0900-3.0	
57- 2100-2.5	
59- 1800-3.0	
61- 0300-2.5	
62- 4000-4.0	
63- 4500-4.0	
68- 4000-4.0	
69- 0600-2.5	
70- 0800-3.0	
71- 2400-3.0	
72- 0400-3.5	
73- 0400-3.5	
74- 0200-3.5	
75- 0100-3.5	

NOSC LA POSTA

Np

2.0 CM

E

W

1556 UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

E

W

1556 UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

W

Levels

0 μT

± 50

±100

±200

1931 UT

Sp

73

Apr 80

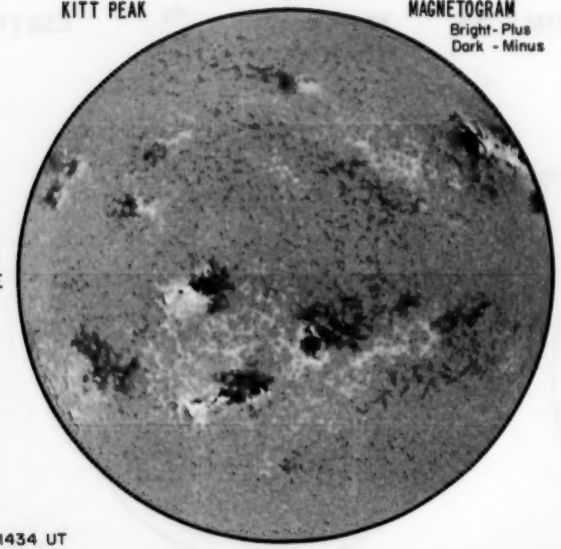
APRIL 12, 1980 (P = -26.22, B_o = -5.80, L_o = 41.29)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



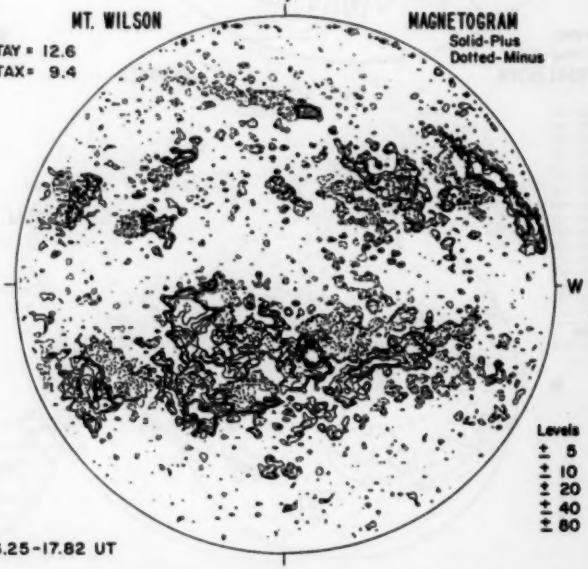
E W

1434 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 12.6
DELTAX = 9.4



E W

Levels
± 5
± 10
± 20
± 40
± 80

16.25 - 17.82 UT

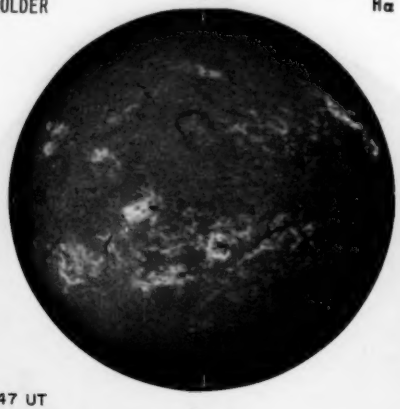
Sp

12

BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

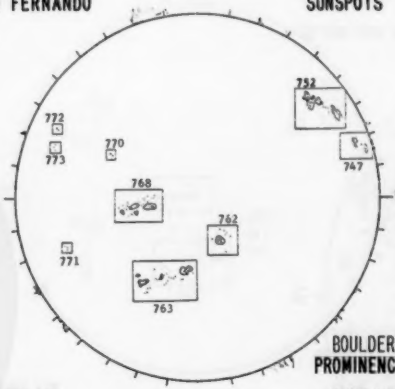
12

BOULDER



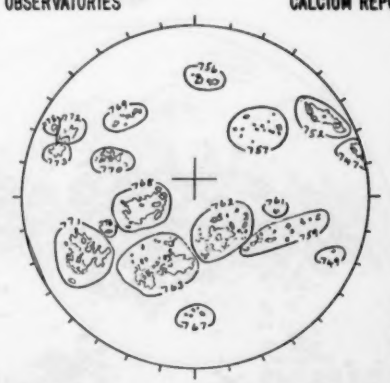
1347 UT

Hα SAN FERNANDO



1730 UT

SUNSPOTS HALE OBSERVATORIES



1900 UT

BOULDER PROMINENCES

1347 UT

CALCIUM REPORT

	POOR	JA
47-	1500	2.5
52-	3000	2.5
56-	0400	3.0
57-	0700	2.5
59-	1100	2.5
61-	0100	2.5
62-	3300	2.5
63-	4000	3.0
67-	0300	2.5
68-	4000	3.5
69-	0500	2.5
70-	0800	3.0
71-	3600	3.0
72-	0700	3.0
73-	0600	3.5
75-	0200	3.0
76-	0100	2.5

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

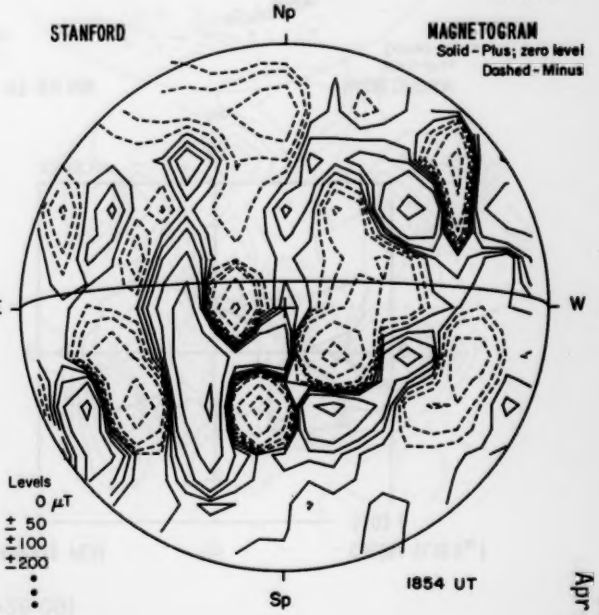
---- UT Sp Ant. Temp. Unit 100° K

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

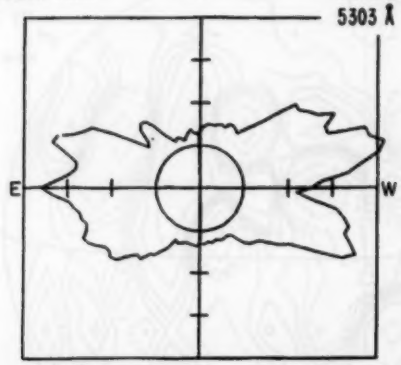


1854 UT

75
Apr 80

APRIL 13, 1980 (P=-26.18, B_o=-5.73, L_o=28.09)

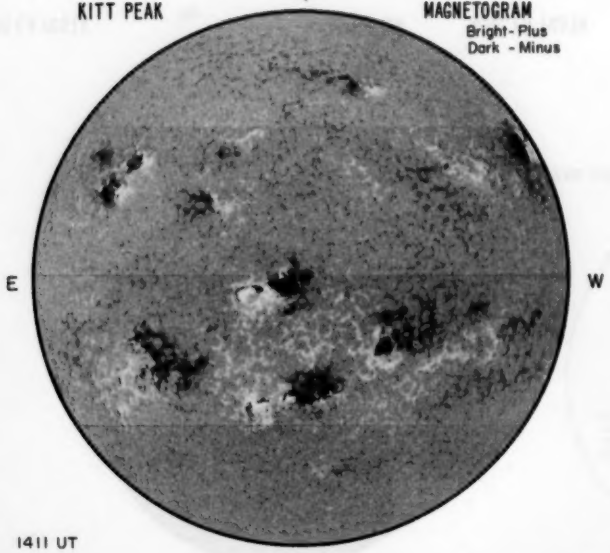
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



2255 UT

Sp

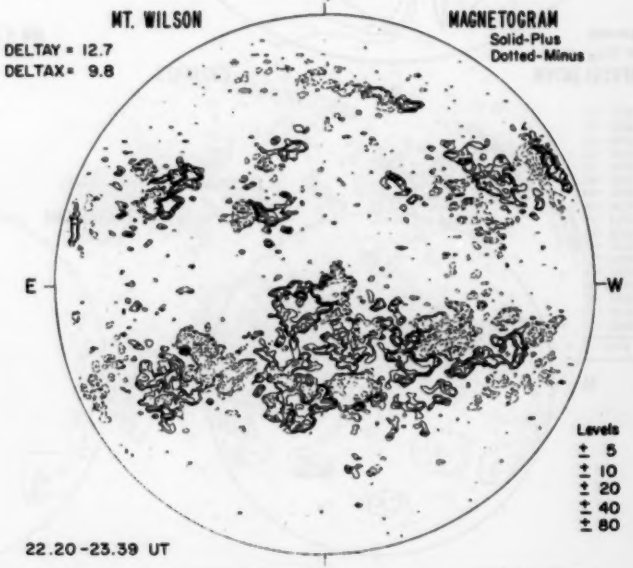
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1411 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.8



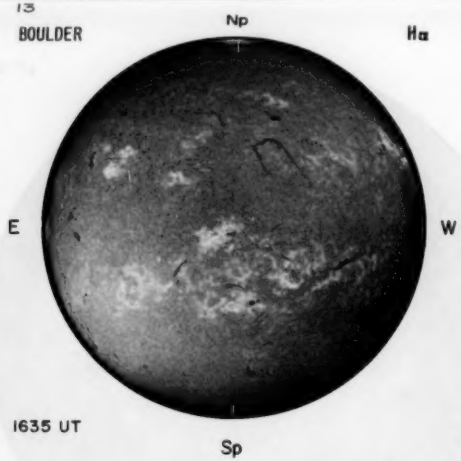
22.20-23.39 UT

Sp

13
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

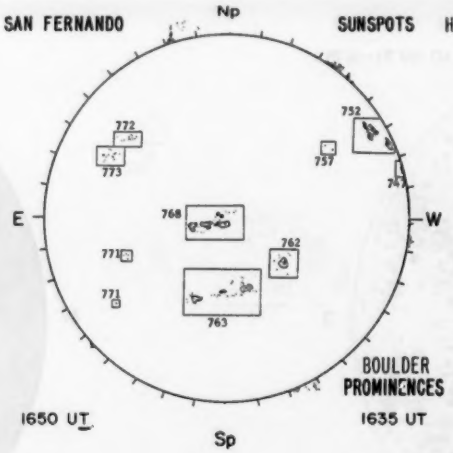
13

BOULDER Hα



1635 UT

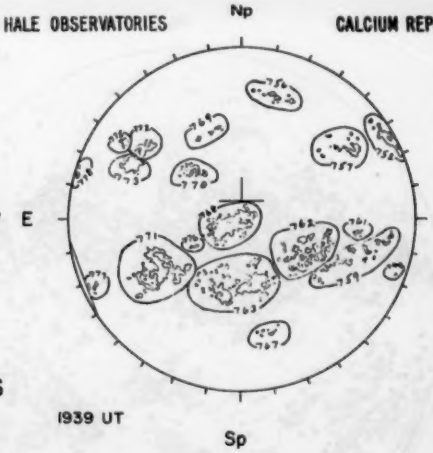
SAN FERNANDO SUNSPOTS



BOULDER PROMINENCES

1650 UT 1635 UT

HALE OBSERVATORIES CALCIUM REPORT



1939 UT

FAIR	JA
52- 2200-2.5	
56- 0500-3.0	
57- 0700-2.5	
59- 1600-2.5	
61- 0100-2.5	
62- 3200-3.0	
63- 4200-3.5	
67- 0300-2.5	
68- 4000-3.5	
69- 0300-3.0	
70- 0700-3.0	
71- 3700-3.5	
72- 1000-3.5	
73- 1200-3.5	
75- 0300-3.5	
76- 0100-3.0	
77- 0300-2.5	
78- 0200-3.0	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

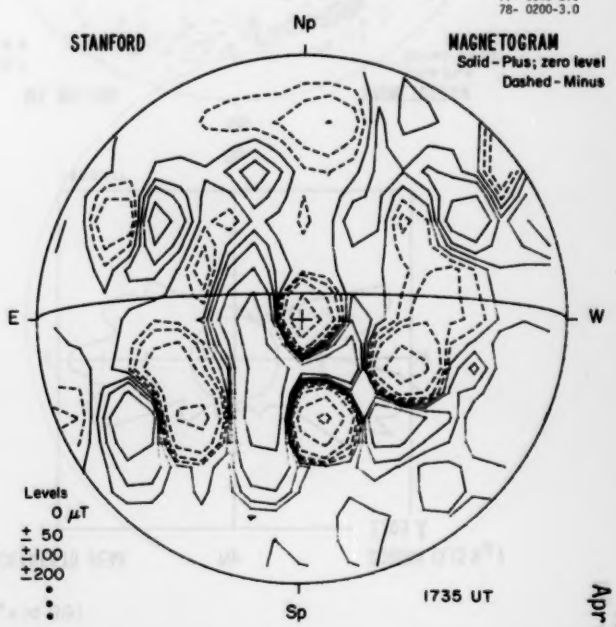
E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



Levels

0 μT

± 50

± 100

± 200

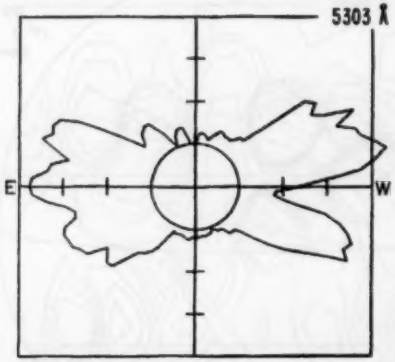
1735 UT

77

Apr 80

APRIL 14, 1980 (P = -26.13, B_o = -5.65, L_o = 14.89)

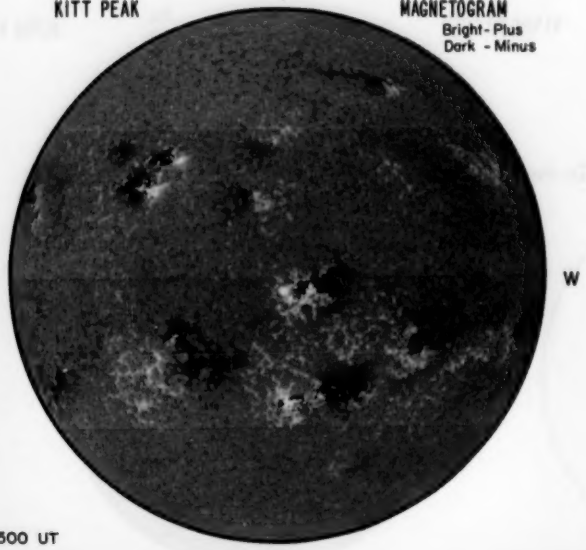
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1436 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



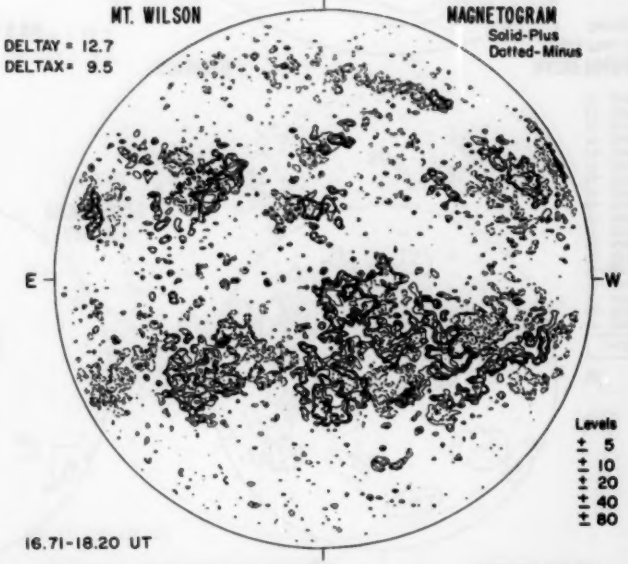
1500 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.5



16.71-18.20 UT

Sp

14
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

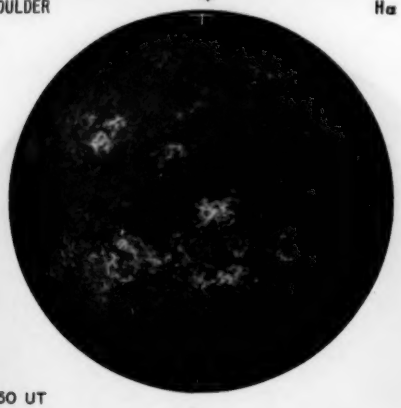
Sp

Sp

14

BOULDER

Np



E W

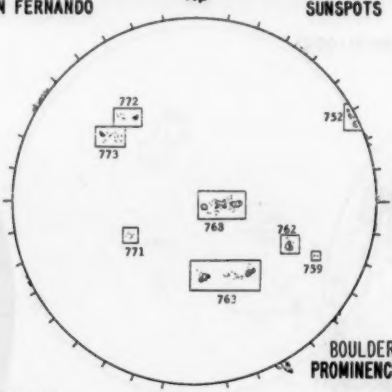
1450 UT

Sp

Hα

SAN FERNANDO

Np



E W

1730 UT

Sp

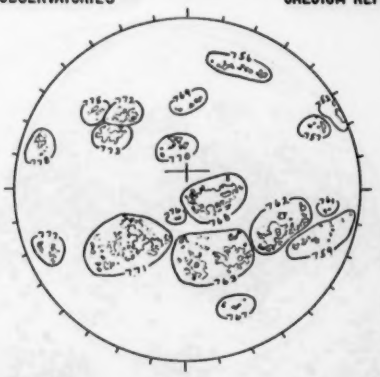
SUNSPOTS

BOULDER PROMINENCES

1450 UT

HALE OBSERVATORIES

Np



E W

1846 UT

Sp

CALCIUM REPORT

FAIR	JA
52- 1300-3.0	
56- 0700-3.0	
57- 0300-2.5	
59- 0900-2.5	
62- 2600-3.0	
63- 4200-3.5	
68- 3900-3.5	
69- 0200-2.5	
70- 0400-3.0	
71- 3200-3.5	
72- 0500-3.5	
73- 0900-3.5	
75- 0300-3.0	
77- 0400-2.5	
78- 0400-3.5	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E W

CALIBRATION

1520 UT

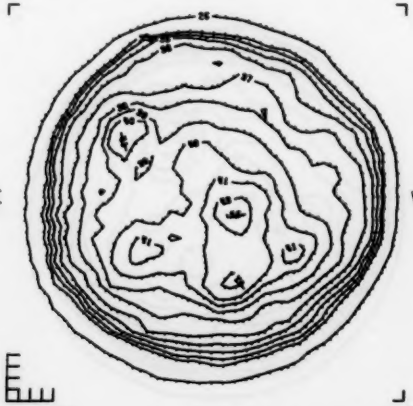
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E W

1547 UT

Sp

Ant. Temp. Unit 100° K

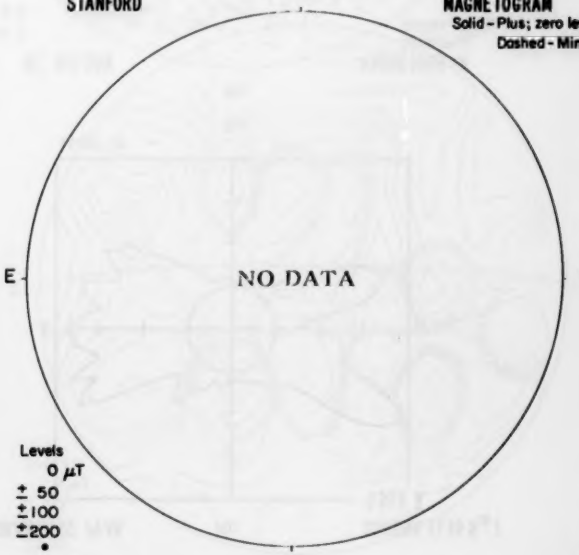
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

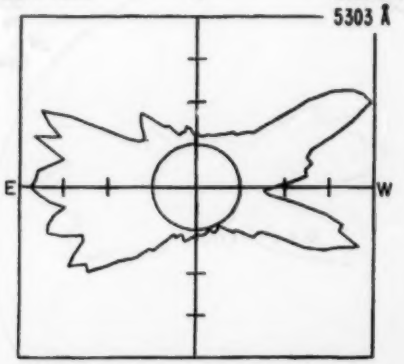
Sp

79

Apr 80

APRIL 15, 1980 (P=-26.07, B_o=-5.57, L_o=1.69)

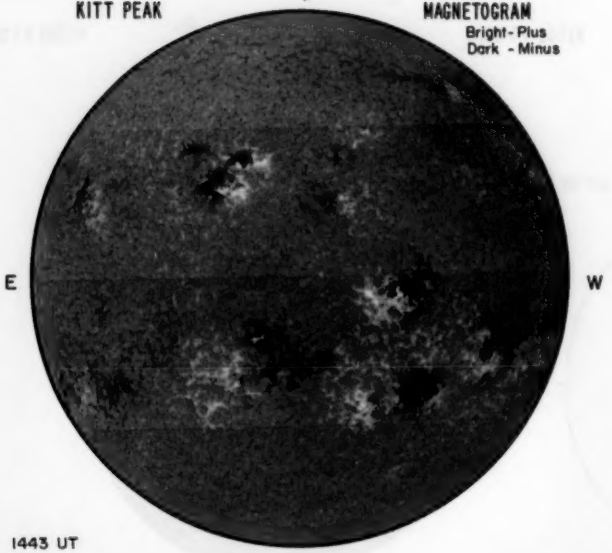
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1455 UT

Sp

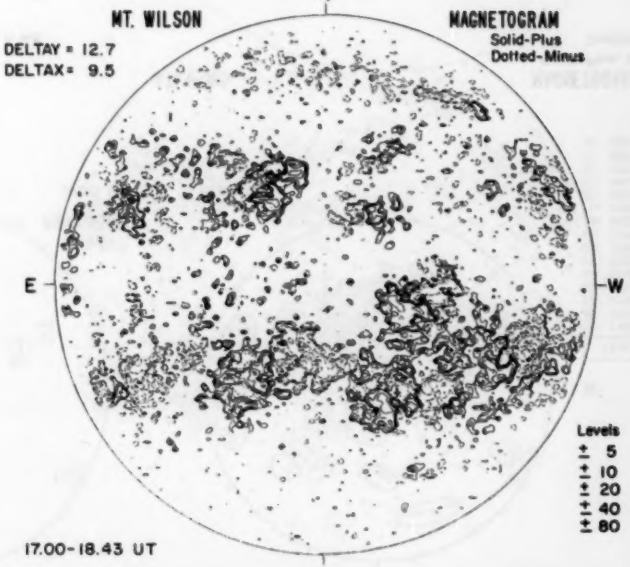
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1443 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.5



17.00-18.43 UT

Sp

15

BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

Sp

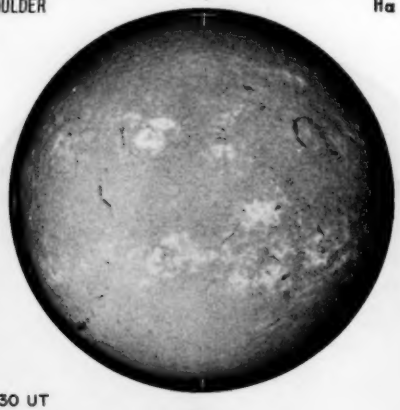
Sp

15

BOULDER

Np

Hα



E

W

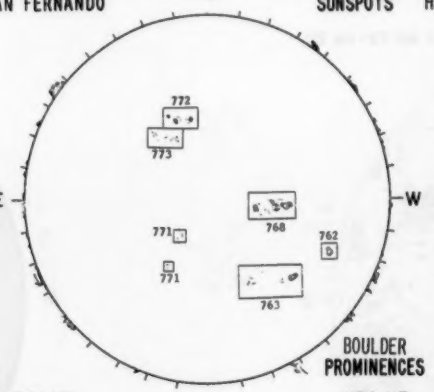
1430 UT

Sp

SAN FERNANDO

Np

SUNSPOTS



E

W

2000 UT

Sp

BOULDER PROMINENCES

1430 UT

HALE OBSERVATORIES

Np

CALCIUM REPORT

E

W

1813 UT

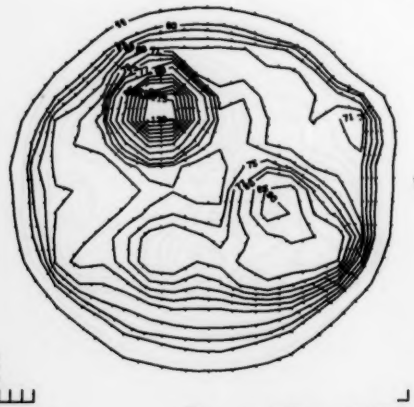
Sp

GOOD	JA
56- 0400-3.0	
59- 0400-2.5	
62- 2400-3.0	
63- 4300-3.5	
68- 3600-3.5	
70- 0500-3.0	
71- 4000-3.5	
72- 1000-4.0	
73- 2000-4.0	
75- 0400-3.0	
77- 0700-2.5	
78- 9600-3.0	

NOSC LA POSTA

Np

2.0 CM



E

W

1548 UT

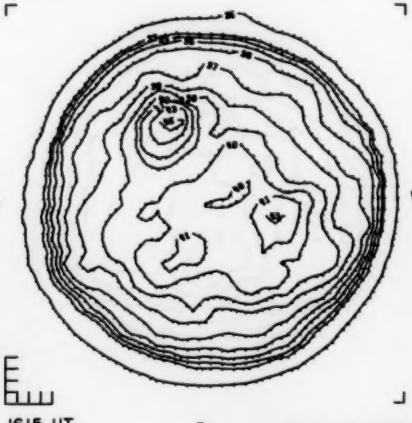
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1615 UT

Sp

Ant. Temp. Unit 100° K

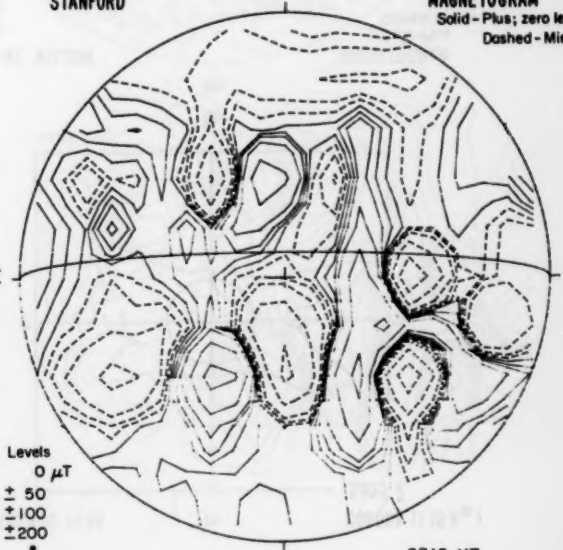
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

•

•

•

2310 UT

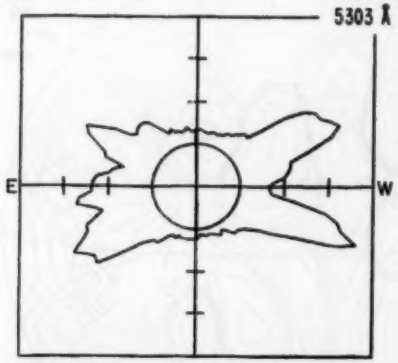
Sp

81

Apr 80

APRIL 16, 1980 (P=-26.00, B_o=-5.49, L_o=348.48)

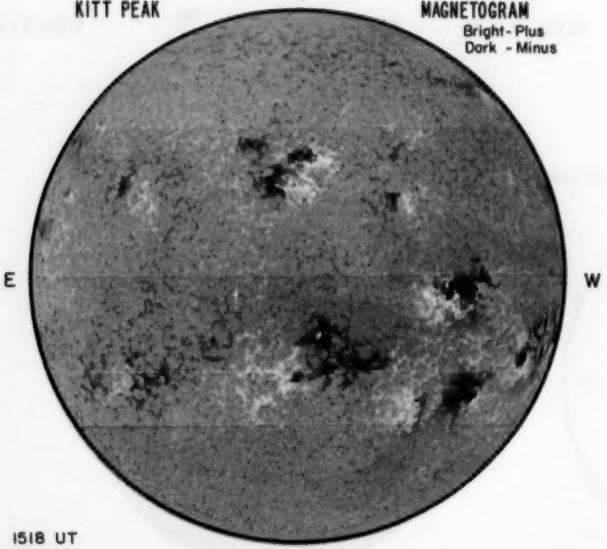
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1448 UT

Sp

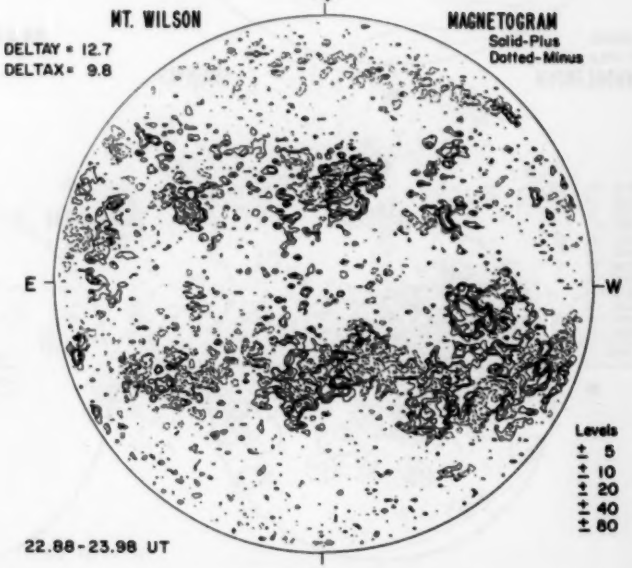
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1518 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.8



22.88-23.98 UT

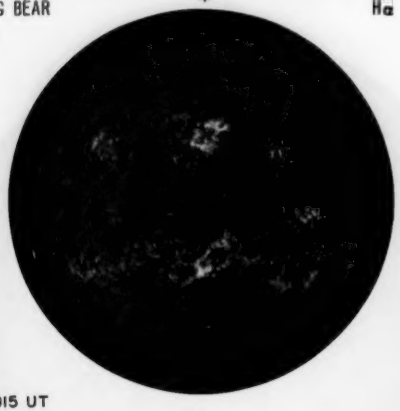
Sp

IS
BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

Sp

IS

BIG BEAR Np Hα

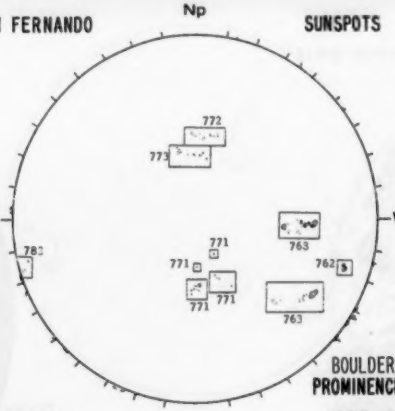


E W

2015 UT

Sp

SAN FERNANDO Np SUNSPOTS



E W

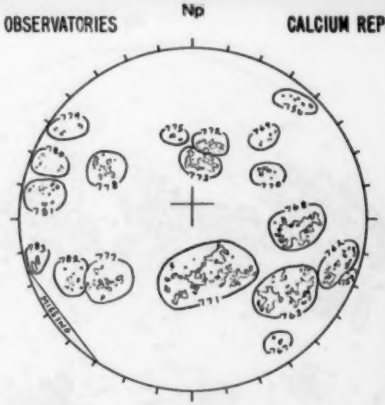
1710 UT

Sp

BOULDER PROMINENCES

1407 UT

HALE OBSERVATORIES Np CALCIUM REPORT



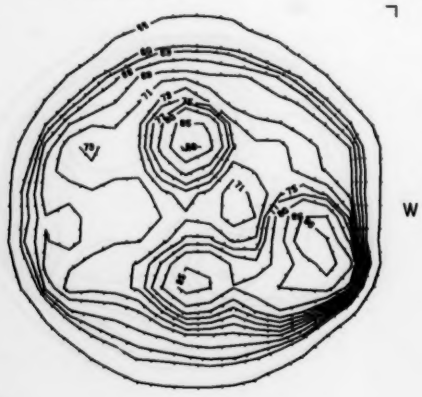
E W

2319 UT

Sp

POOR	JA
62- 1100-2.5	
63- 4200-3.5	
68- 3800-3.0	
70- 0300-2.5	
71- 4100-3.5	
72- 1100-3.0	
73- 1300-3.0	
75- 0100-3.0	
77- 1000-3.0	
78- 0700-3.0	
79- 0300-3.0	
80- 0500-3.0	
81- 0600-2.5	
82- 0500-2.5	
83- 0900-4.0	

NOSC LA POSTA Np 2.0 CM

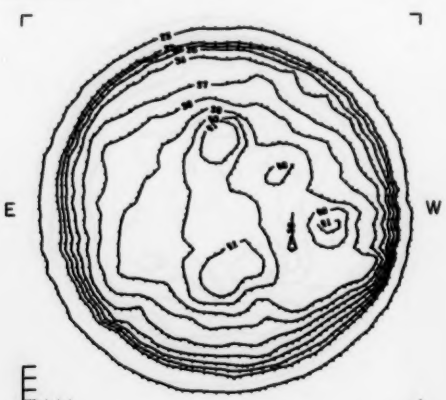


E W

1534 UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



E W

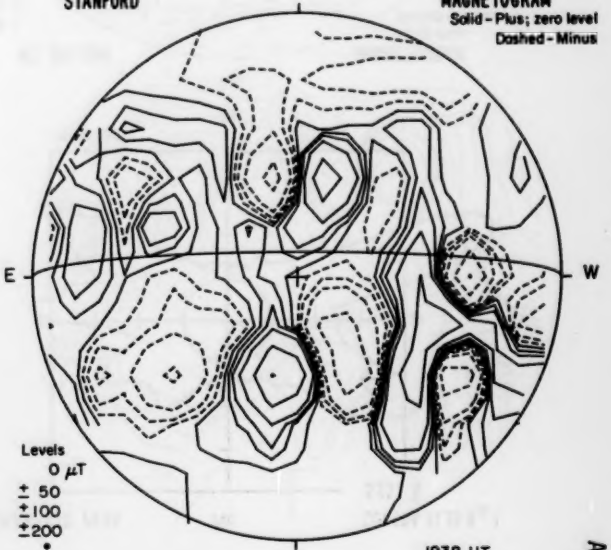
1602 UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1938 UT

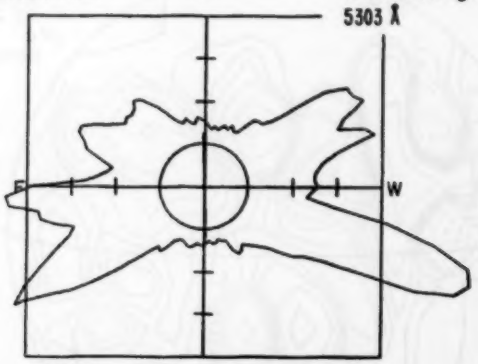
Sp

83

Apr 80

APRIL 17, 1980 (P = 25.93, B_o = -5.41, L_o = 335.28)

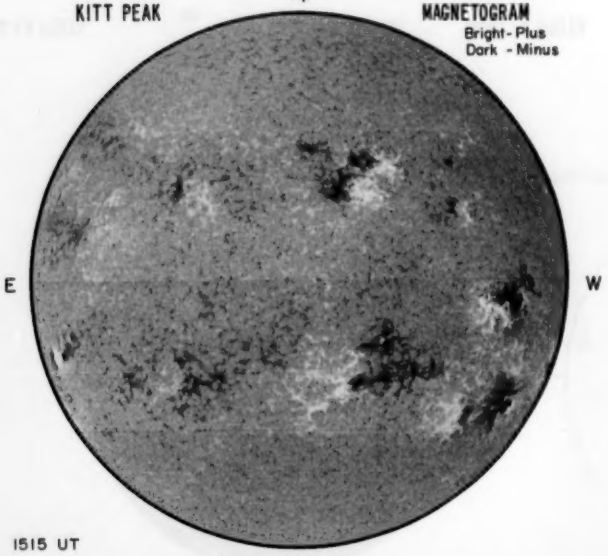
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1528 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

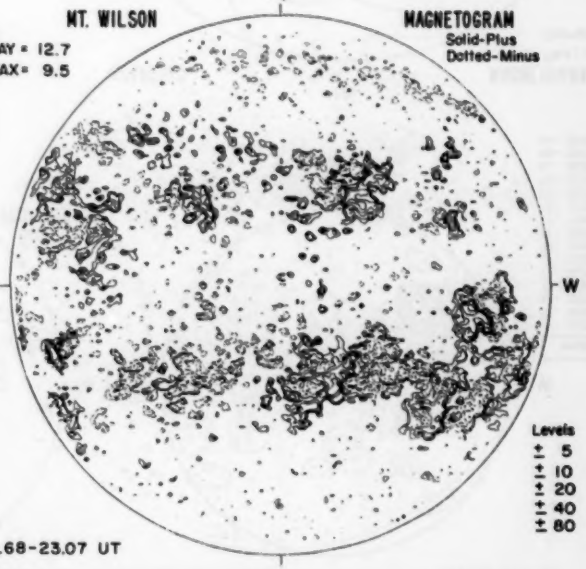


1515 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.5

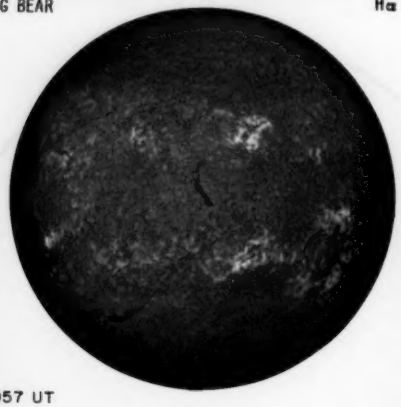


21.68-23.07 UT

Sp

17
BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

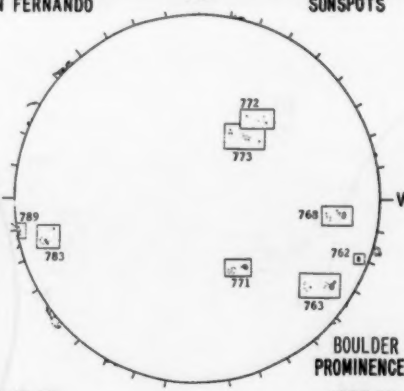
BIG BEAR Np Hα



E W

2057 UT Sp

SAN FERNANDO Np SUNSPOTS



E W

2015 UT Sp

BOULDER PROMINENCES

1405 UT

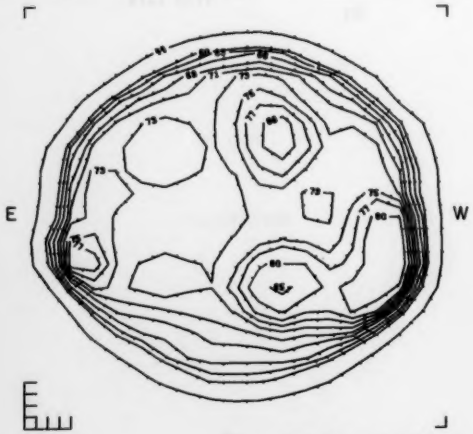
HALE OBSERVATORIES Np CALCIUM REPORT

E W

1735 UT Sp

FAIR	JA
56-	0400-2.5
62-	0500-2.5
63-	3300-3.5
68-	3100-3.0
70-	0300-2.5
71-	3900-3.5
72-	1400-3.5
73-	1500-3.5
75-	0300-3.0
77-	1100-3.0
78-	0800-3.0
81-	1000-2.5
82-	0300-2.5
83-	0900-4.0
84-	0400-2.5

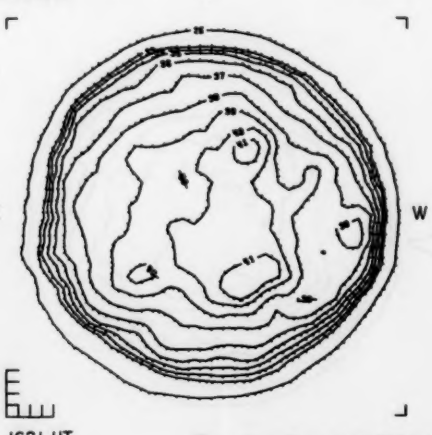
NOSC LA POSTA Np 2.0 CM



E W

1552 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



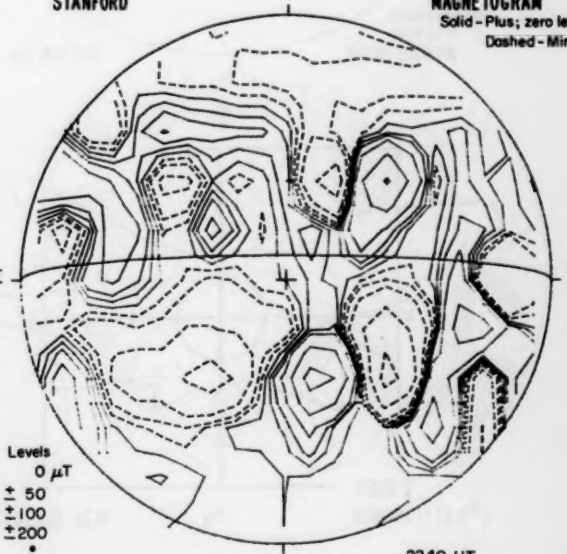
E W

1621 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

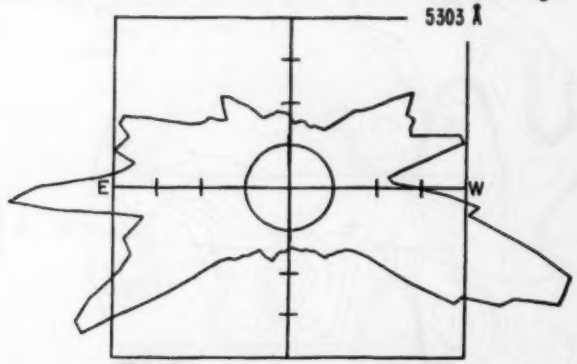
2240 UT Sp

85

Apr 80

APRIL 18, 1980 (P=-25.85, B_o=-5.33, L_o=322.07)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1536 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E NO DATA W

Sp

Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

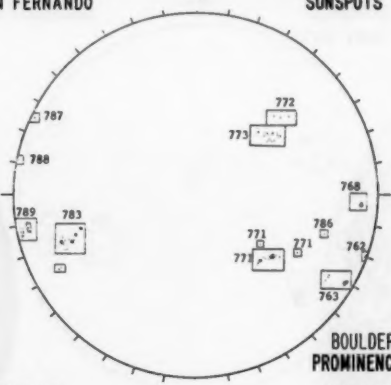
BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

BIG BEAR Np Hα

E W

2334 UT Sp

SAN FERNANDO Np SUNSPOTS



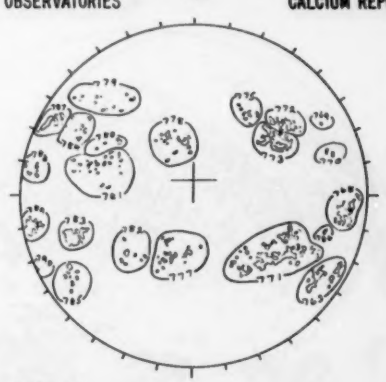
E W

1720 UT Sp

BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES Np CALCIUM REPORT



E W

2307 UT Sp

FAIR	JA
63- 1500-3.5	
68- 1800-3.0	
70- 0200-2.5	
71- 0400-3.5	
72- 0700-3.5	
73- 1700-3.5	
75- 0400-3.0	
77- 1000-3.0	
78- 0800-3.0	
79- 0500-2.5	
80- 0200-2.5	
81- 0800-2.5	
82- 0400-3.0	
83- 1700-4.0	
84- 0500-3.0	
85- 0500-3.0	
86- 0100-2.5	
87- 0900-3.5	
88- 0400-2.5	
89- 1400-3.5	

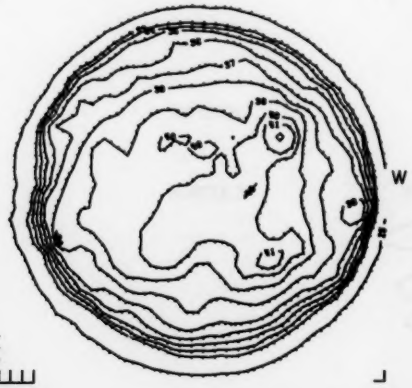
NOSC LA POSTA Np 2.0 CM

NO DATA

E CALIBRATION W

1519 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



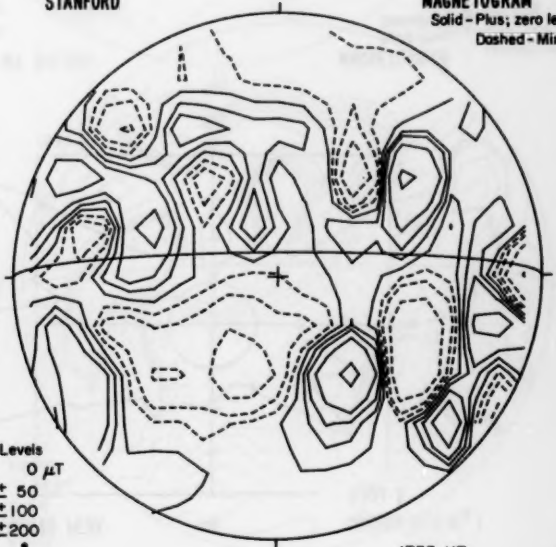
E W

1551 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1733 UT Sp

87

Apr 80

APRIL 19, 1980 (P=-25.76, B_o=-5.24, L_o=308.86)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E

1531 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright-Plus
Dark - Minus

E W

1507 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.6
DELTAX= 9.8

E W

Levels
± 5
± 10
± 20
± 40
± 80

17.99-18.91 UT

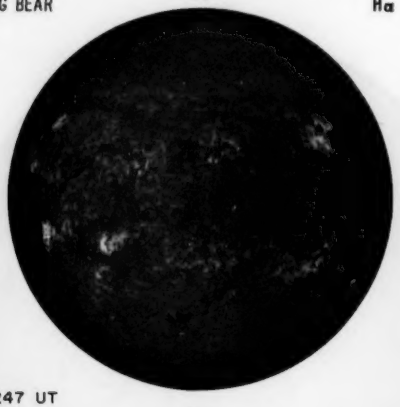
Sp

19

BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

BIG BEAR

Np



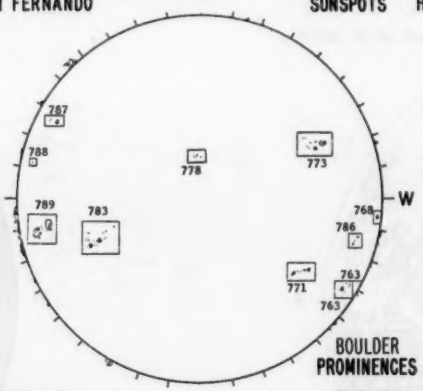
E W

2247 UT

Sp

Hα SAN FERNANDO

Np



E W

1640 UT

Sp

SUNSPOTS

BOULDER PROMINENCES

1353 UT

HALE OBSERVATORIES

Np

E W

1844 UT

Sp

CALCIUM REPORT

FAIR	JA
63- 1200-3.0	
68- 0900-3.0	
71- 3600-3.5	
72- 0700-3.0	
73- 1700-3.0	
75- 0200-2.5	
77- 0900-3.0	
78- 0800-3.0	
79- 0600-2.5	
80- 0200-2.5	
81- 0700-3.0	
82- 0400-3.0	
83- 2200-4.0	
84- 0500-2.5	
85- 0500-3.0	
86- 0100-3.0	
87- 1400-4.0	
88- 1500-3.5	
89- 2300-4.0	
90- 0300-3.0	
91- 0300-3.0	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E SCHEDULE W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E SCHEDULE W

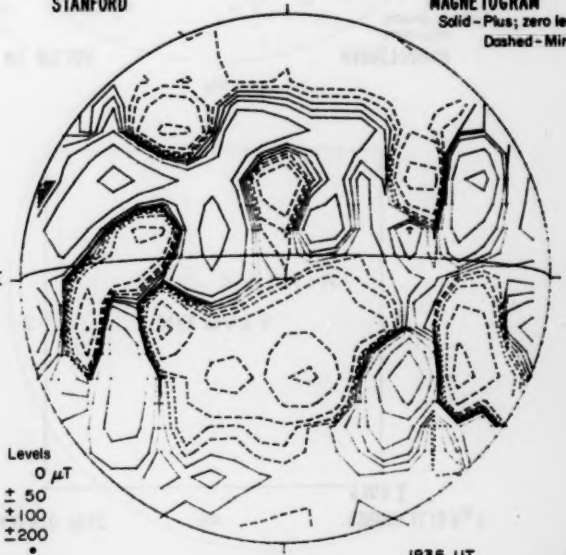
---- UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np



E W

Levels
0 μT
± 50
±100
±200
• • •

1835 UT

Sp

MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

APRIL 20, 1980 (P=-25.67, B_o=-5.16, L_o=295.66)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright-Plus
Dark -Minus

E W

1653 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.4

E W

Levels
± 5
± 10
± 20
± 40
± 80

16.66-18.26 UT

Sp

20

BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

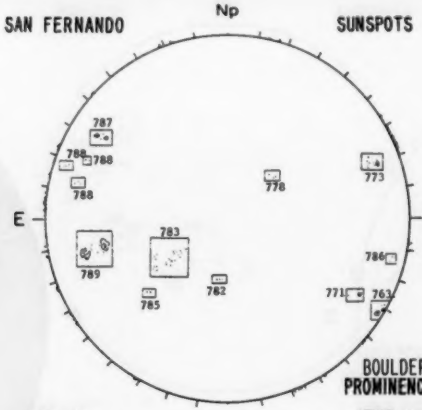
20

BIG BEAR

2230 UT

Hα

SAN FERNANDO



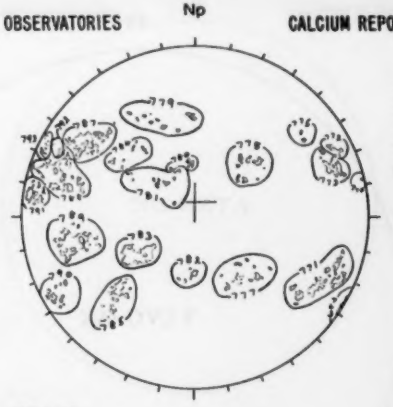
1700 UT

SUNSPOTS

BOULDER PROMINENCES

1535 UT

HALE OBSERVATORIES



1921 UT

CALCIUM REPORT

	FAIR	JA
63-	0300	2.5
70-	0100	3.0
71-	2600	2.5
72-	0300	2.5
75-	0100	2.5
78-	0600	2.5
79-	0500	2.5
80-	0300	2.5
82-	0200	3.0
83-	1800	3.5
84-	0400	2.5
85-	1100	3.0
87-	1700	3.5
88-	4000	3.5
89-	3000	3.5
90-	0800	3.0
91-	1100	3.0
92-	0300	3.5
93-	0700	3.0

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

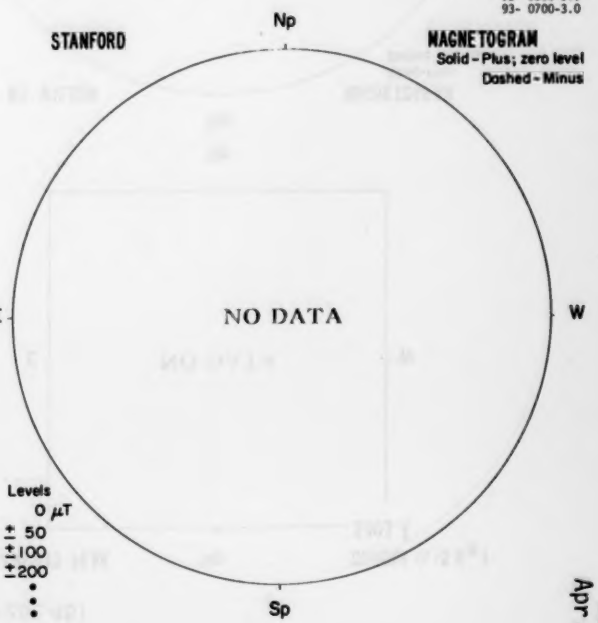
W

---- UT

Sp

Ant. Temp. Unit 100° K

STANFORD



MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

Levels

0 μT

± 50

±100

±200

91

Apr 80

APRIL 21, 1980 (P = -25.57, B_o = -5.07, L_o = 282.45)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E

NO DATA

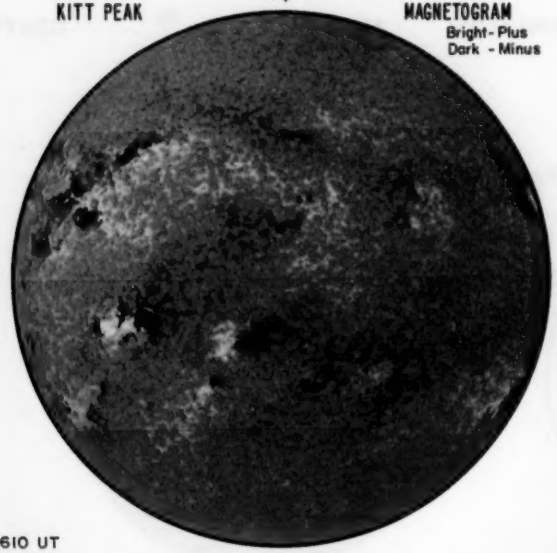
W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



E

W

1610 UT

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

NO DATA

W

Levels
5
10
20
40
80

Sp

21

Np

Hα

BOULDER

Np

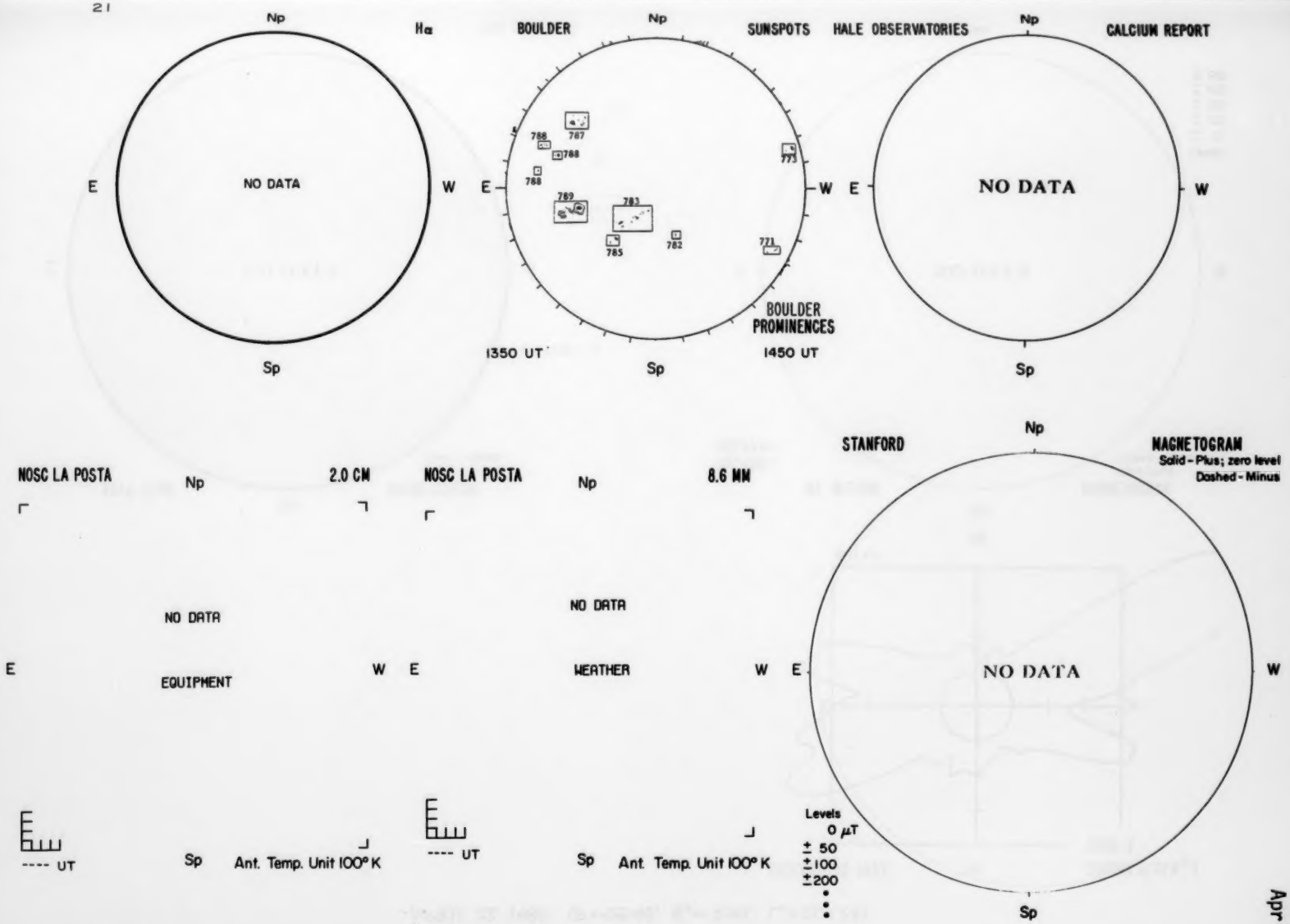
SUNSPOTS

HALE OBSERVATORIES

Np

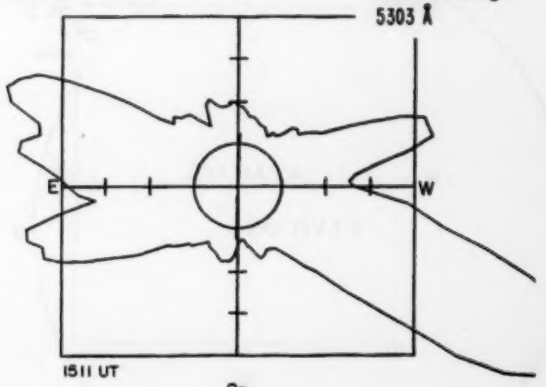
CALCIUM REPORT

21


Hα
Np
E
W
Sp
NO DATA
BOULDER
SUNSPOTS
788
787
788
788
789
783
785
782
773
771
BOULDER PROMINENCES
1350 UT
1450 UT
HALE OBSERVATORIES
CALCIUM REPORT
NO DATA
NOSC LA POSTA
2.0 CM
NO DATA
EQUIPMENT
---- UT
Ant. Temp. Unit 100° K
NOSC LA POSTA
8.6 MM
NO DATA
WEATHER
---- UT
Ant. Temp. Unit 100° K
STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
NO DATA
Levels
0 μT
± 50
±100
±200

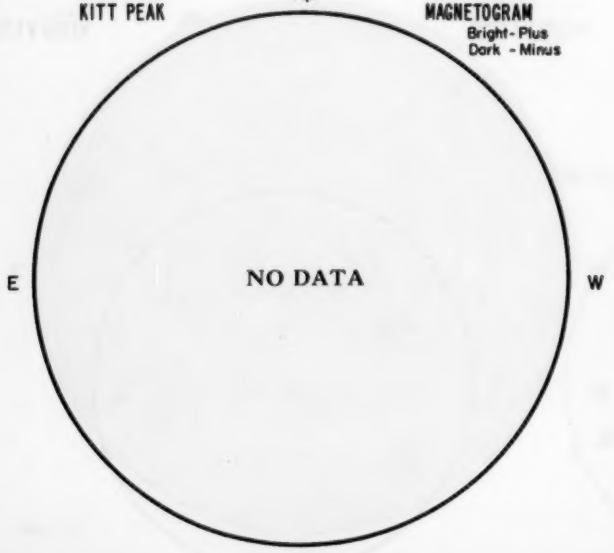
APRIL 22, 1980 (P=-25.46, B_o=-4.98, L_o=269.24)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

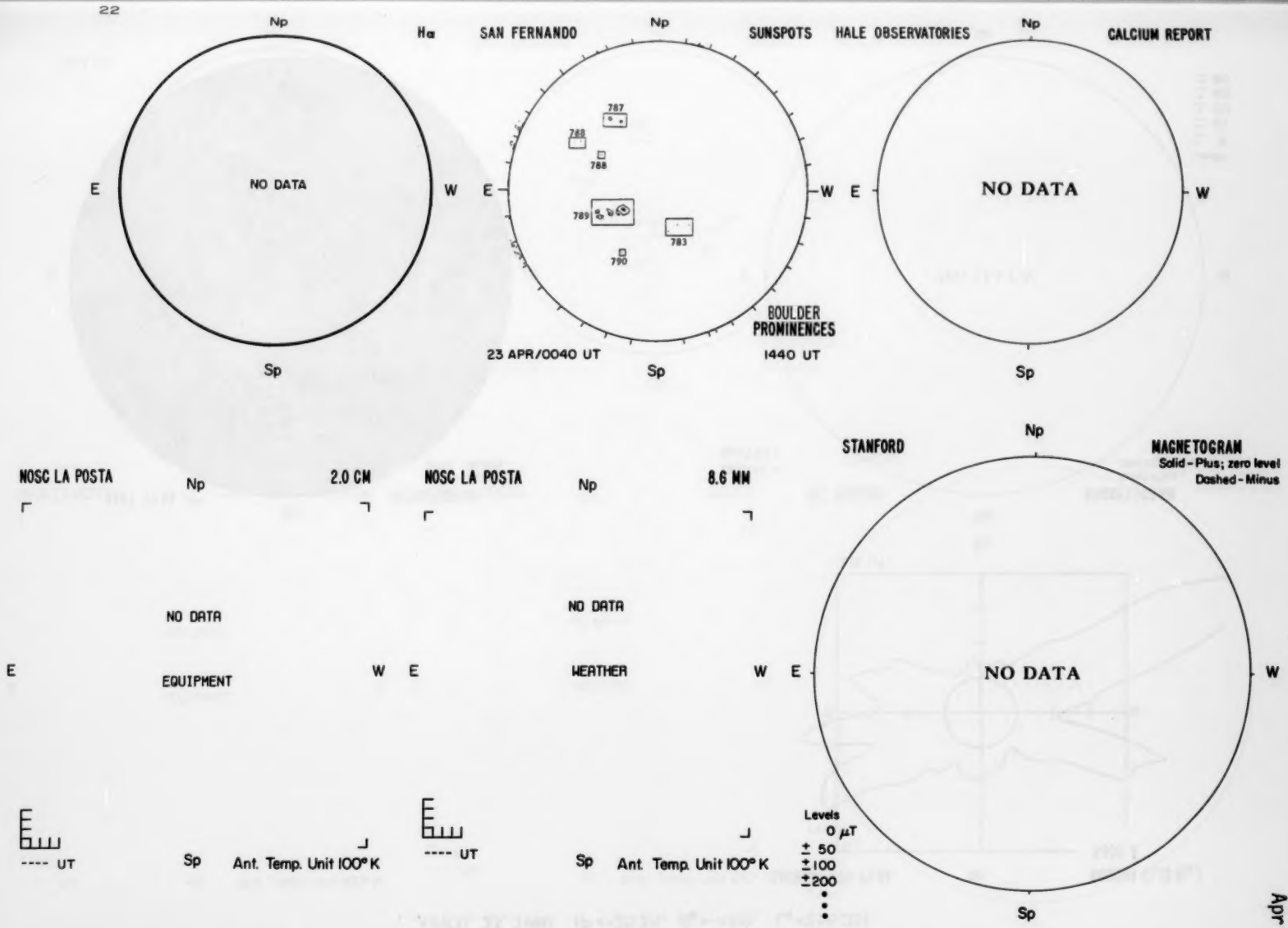


Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =

22

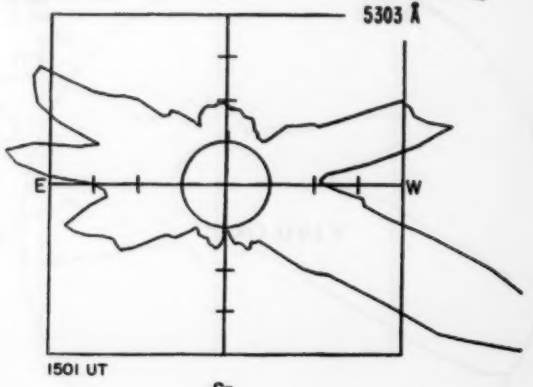
Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

22


Hα
Np
E
W
Sp
NO DATA
SAN FERNANDO
SUNSPOTS
787
788
788
789
783
790
BOULDER
PROMINENCES
23 APR/0040 UT
1440 UT
HALE OBSERVATORIES
CALCIUM REPORT
NO DATA
NOSC LA POSTA
2.0 CM
NO DATA
EQUIPMENT
---- UT
Ant. Temp. Unit 100° K
NOSC LA POSTA
8.6 MM
NO DATA
WEATHER
---- UT
Ant. Temp. Unit 100° K
STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
NO DATA
Levels
0 μT
± 50
±100
±200

APRIL 23, 1980 (P=-25.34, B_o=-4.89, L_o=256.03)

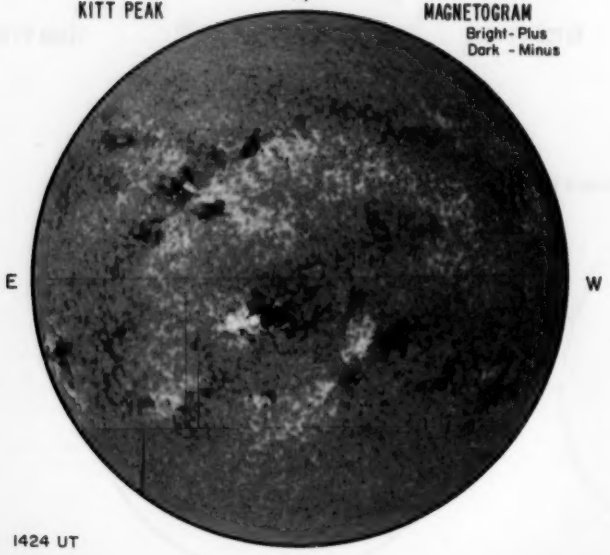
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1501 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1424 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E NO DATA W

Levels
5
10
20
40
60

Sp

23

Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

Sp

Sp

23

Np

E NO DATA W

Sp

Hα

SAN FERNANDO

Np

787

791

789

783

783

790

E W

2315 UT

Sp

SUNSPOTS

BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES

Np

E NO DATA W

Sp

CALCIUM REPORT

NOSC LA POSTA Np 2.0 CM

NO DATA

E EQUIPMENT W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD

Np

E NO DATA W

Sp

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

Levels

0 μT

± 50

±100

±200

•

•

•

97

Apr 80

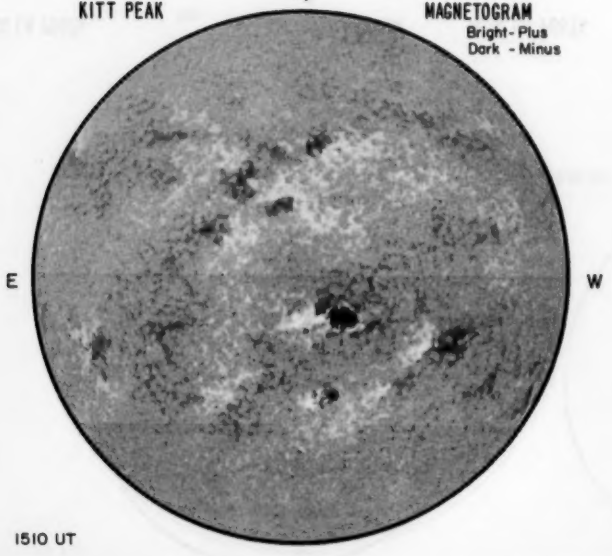
APRIL 24, 1980 (P=-25.22, B_o=-4.80, L_o=242.82)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright-Plus
Dark -Minus

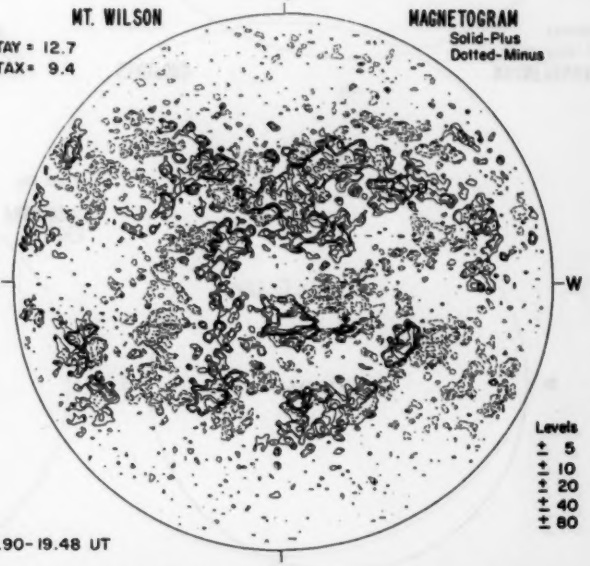


E W

1510 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



E W

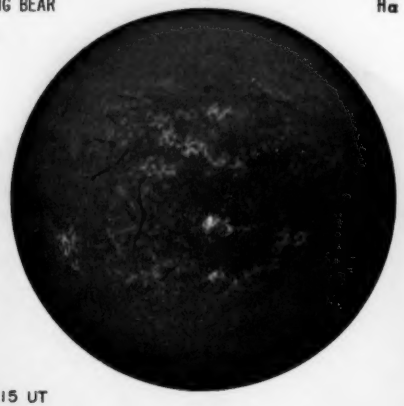
Levels
± 5
± 10
± 20
± 40
± 80

17.90-19.48 UT

Sp

24
BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

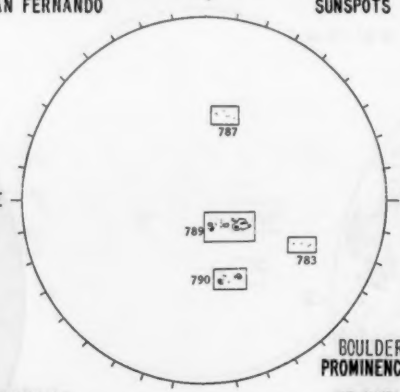
BIG BEAR Np Hα



E W

1615 UT Sp

SAN FERNANDO Np SUNSPOTS



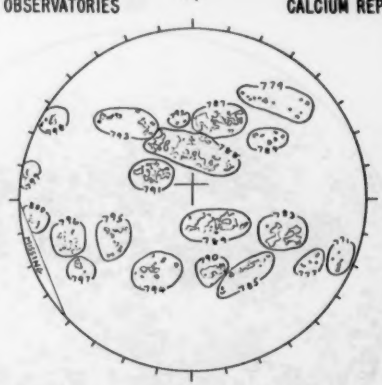
E W

2220 UT Sp

BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES Np CALCIUM REPORT



E W

1843 UT Sp

FAIR	JA
83-	1600-2.5
85-	0600-2.5
87-	1700-3.0
88-	3200-3.0
89-	1800-3.5
90-	0800-3.0
91-	1000-3.0
94-	0700-2.5
96-	0800-3.0
97-	0200-2.5
98-	0500-3.0
99-	0300-3.0
00-	0200-2.5

NOSC LA POSTA Np 2.0 CM

NO DATA

E W

EQUIPMENT

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E W

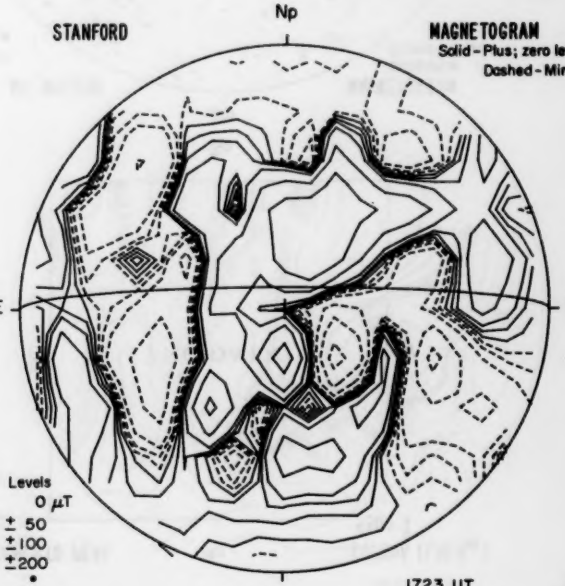
WEATHER

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1723 UT Sp

99

Apr 80

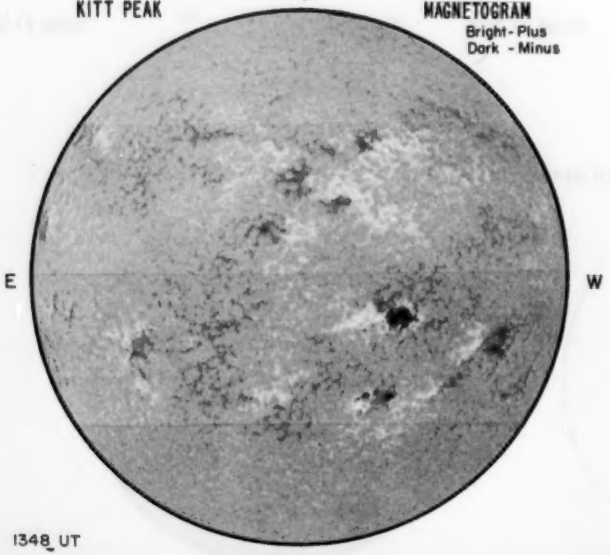
APRIL 25, 1980 (P=-25.09, B_o=-4.71, L_o=229.61)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

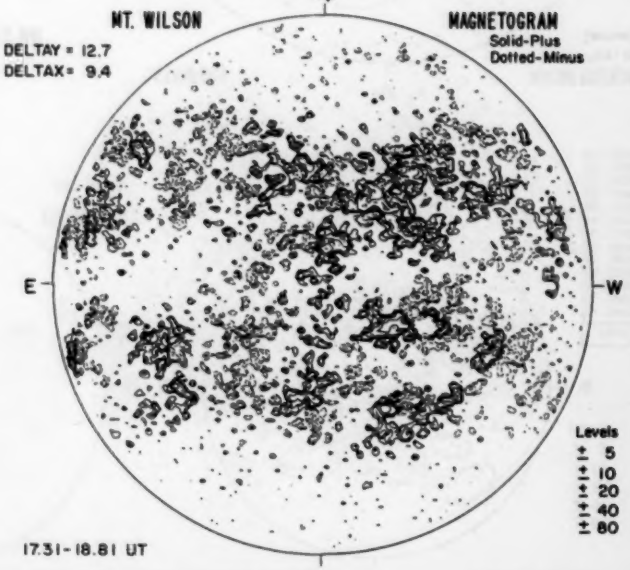
Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1348 UT

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



17.31 - 18.81 UT

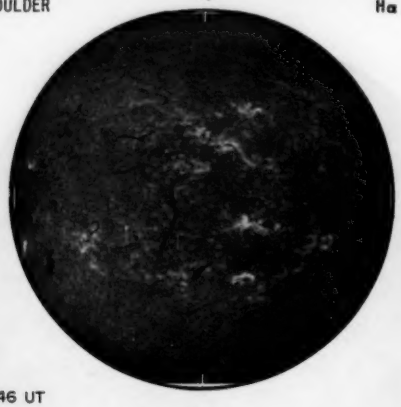
25
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

Sp

25

BOULDER

Np



E W

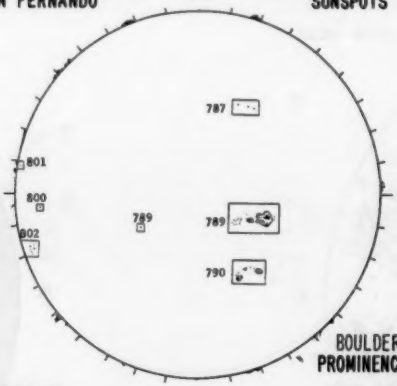
1346 UT

Sp

Hα

SAN FERNANDO

Np



E W

1655 UT

Sp

SUNSPOTS

BOULDER PROMINENCES

1346 UT

HALE OBSERVATORIES

Np

E W

1812 UT

Sp

CALCIUM REPORT

	FAIR	JA
79-	0300	2.5
83-	1500	3.0
84-	0400	2.5
85-	0600	2.5
87-	2400	3.0
88-	4200	3.0
89-	2900	3.0
90-	0900	3.5
91-	0800	3.0
92-	0100	2.5
93-	0800	2.5
94-	0900	2.5
95-	0700	3.0
97-	0200	3.0
98-	1000	3.5
99-	0900	3.5
00-	0300	2.5
01-	0400	3.0
02-	0600	3.0

NOSC LA POSTA

Np

2.0 CM

NO DATA

E W

EQUIPMENT

---- UT

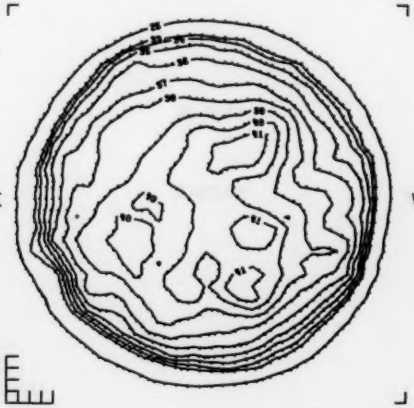
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E W

1602 UT

Sp

Ant. Temp. Unit 100° K

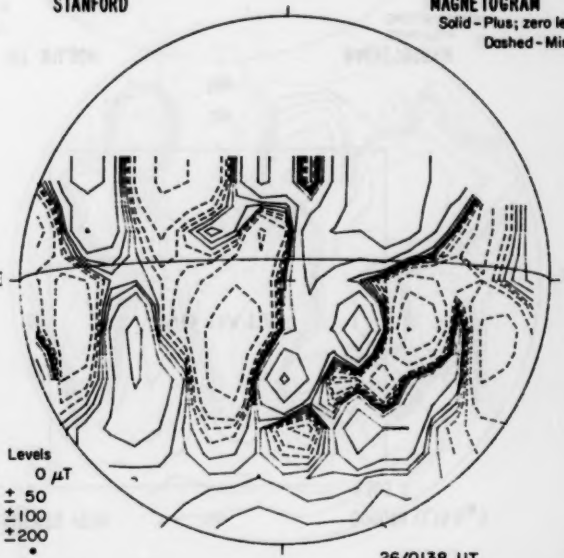
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

Sp

26/0138 UT

101

Apr 80

APRIL 26, 1980 (P = -24.95, B_o = -4.61, L_o = 216.39)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

1351 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid - Plus
Dotted - Minus
DELTAY = 12.7
DELTAX = 9.4

E W

Levels
± 5
± 10
± 20
± 40
± 80

17.58-19.27 UT

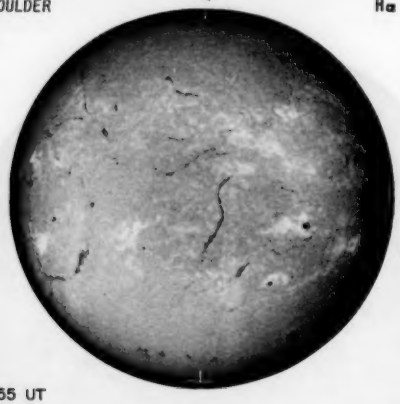
Sp

26
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

26

BOULDER

Np



E W

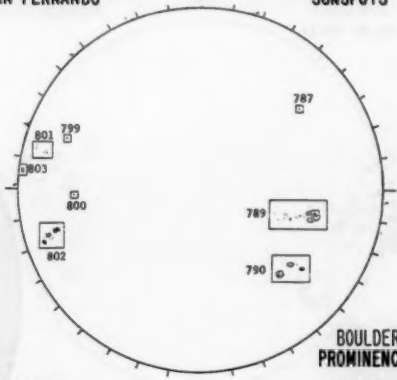
Sp

1355 UT

Hα

SAN FERNANDO

Np



E W

Sp

2220 UT

SUNSPOTS

BOULDER PROMINENCES

1358 UT

HALE OBSERVATORIES

Np

NO DATA

E W

Sp

CALCIUM REPORT

1358 UT

NOSC LA POSTA

Np

2.0 CM

NO DATA

E W

SCHEDULE

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E W

SCHEDULE

---- UT

Sp

Ant. Temp. Unit 100° K

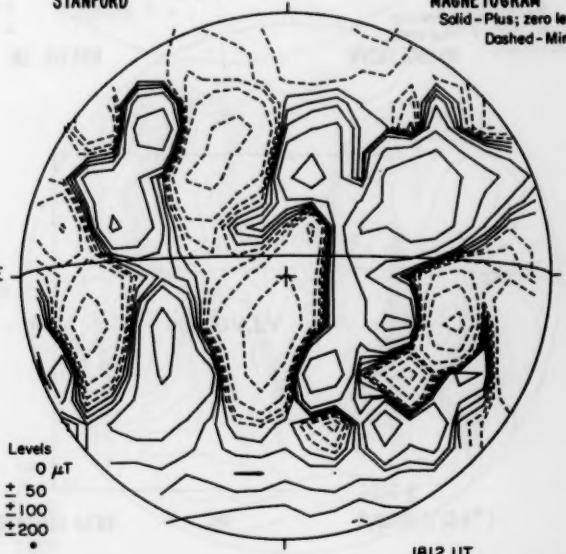
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

Sp

1812 UT

103

Apr 80

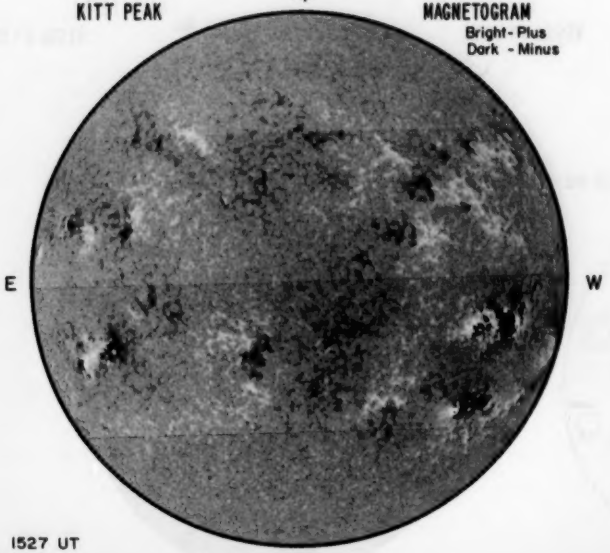
APRIL 27, 1980 (P=-24.80, B_o=-4.52, L_o=203.18)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



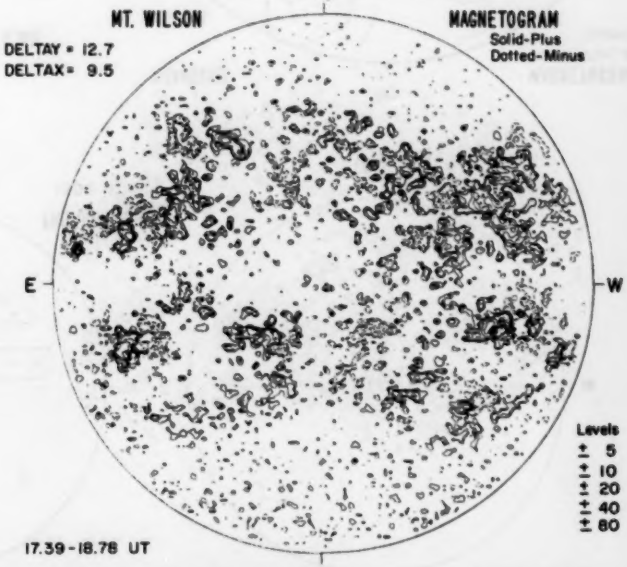
E W

1527 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 12.7
DELTAX = 9.5



E W

Levels
± 5
± 10
± 20
± 40
± 80

17.39 - 18.78 UT

Sp

27

BOULDER Np Hα

SAN FERNANDO Np SUNSPOTS

HALE OBSERVATORIES Np CALCIUM REPORT

Sp

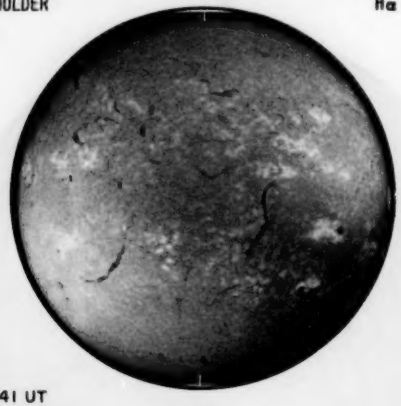
Sp

27

BOULDER

Np

Hα



E

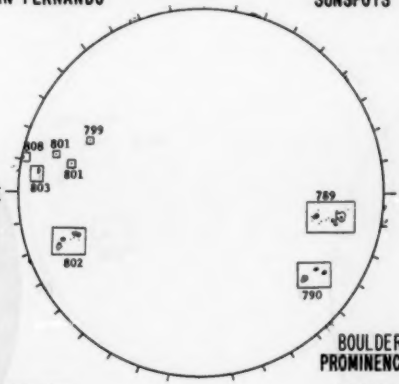
W

1541 UT

Sp

SAN FERNANDO

Np



E

W

1730 UT

Sp

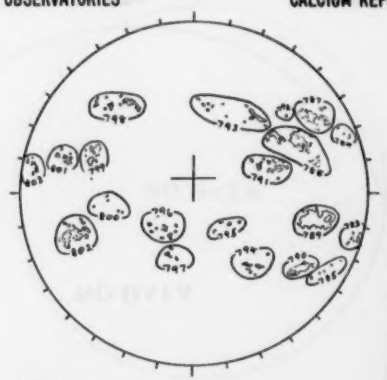
SUNSPOTS

BOULDER PROMINENCES

1541 UT

HALE OBSERVATORIES

Np



E

W

1823 UT

Sp

CALCIUM REPORT

	FAIR	JA
83-	0400	3.0
84-	0200	3.0
85-	0200	2.5
87-	1100	3.0
88-	2100	2.5
89-	3000	3.0
90-	1000	3.0
91-	0600	2.5
97-	0200	2.5
98-	0700	3.0
99-	0700	3.5
00-	0200	2.5
01-	0300	3.5
02-	1600	3.5
03-	0300	2.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

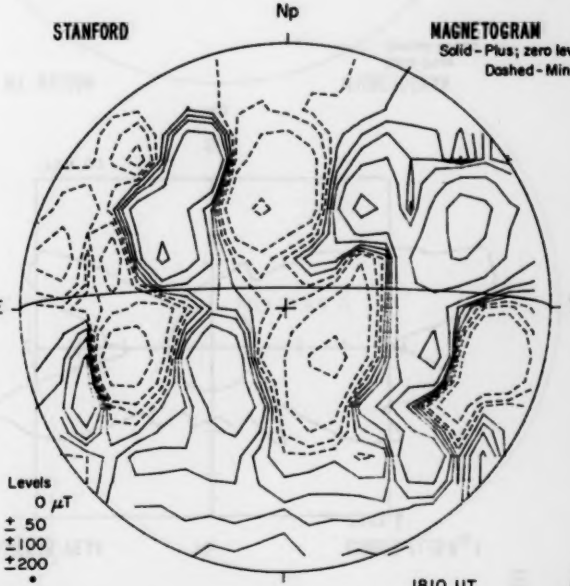
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

1810 UT

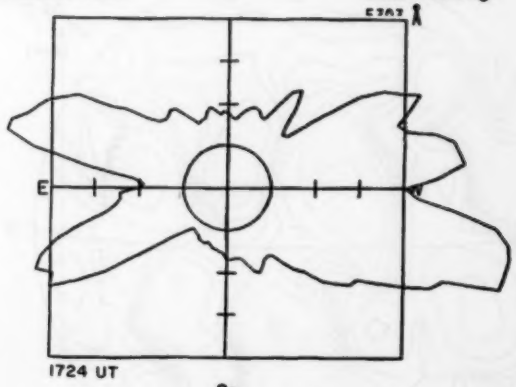
Sp

105

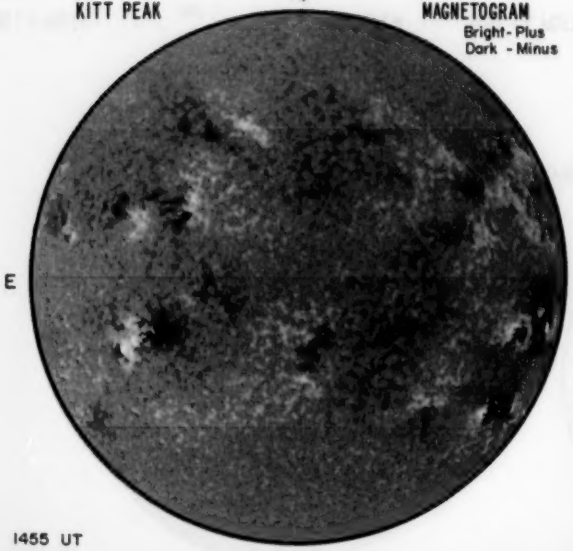
Apr 80

APRIL 28, 1980 (P=-24.65, B_o=-4.42, L_o=189.96)

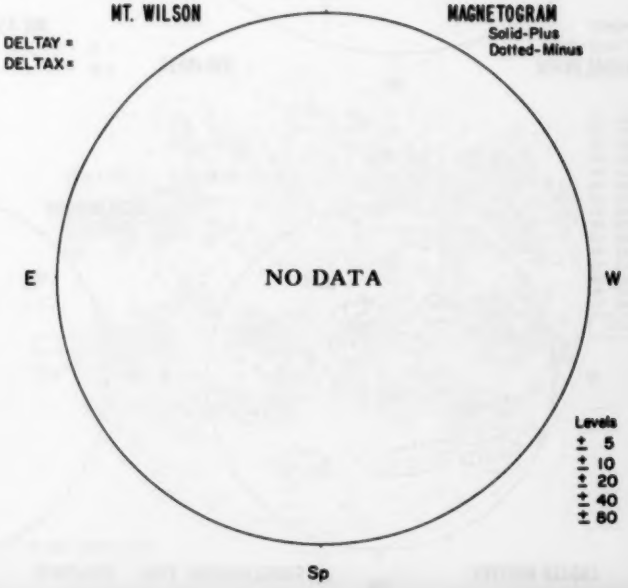
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)



KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



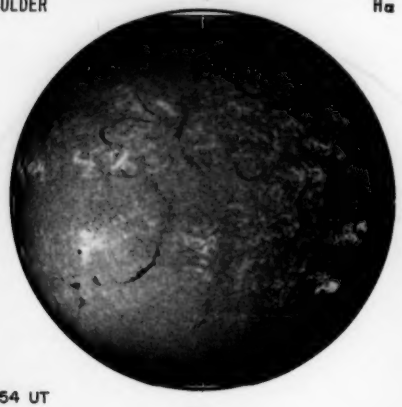
MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =



28
BOULDER Np Hα BOULDER Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

28

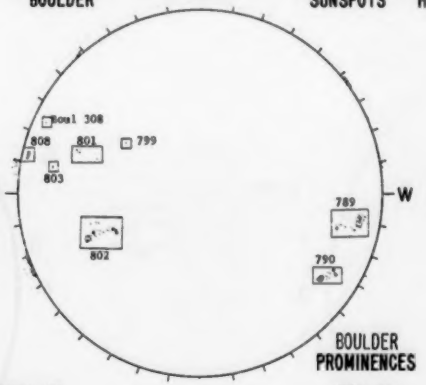
BOULDER Np Hα



E W

1354 UT Sp

BOULDER Np SUNSPOTS



E W

1350 UT Sp

BOULDER PROMINENCES

1354 UT

HALE OBSERVATORIES Np CALCIUM REPORT

NO DATA

E W

Sp

NOSC LA POSTA Np 2.0 CM

NO DATA

E W

EQUIPMENT

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E W

WEATHER

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

NO DATA

E W

Sp

Levels

0 μT

± 50

±100

±200

•

•

•

APR 80

APRIL 29, 1980 (P=-24.49, B_o=-4.32, L_o=176.75)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E NO DATA W

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =

E NO DATA W

Sp

Levels
± 5
± 10
± 20
± 40
± 80

29
BOULDER Np Hα

SAN FERNANDO Np SUNSPOTS

HALE OBSERVATORIES Np CALCIUM REPORT

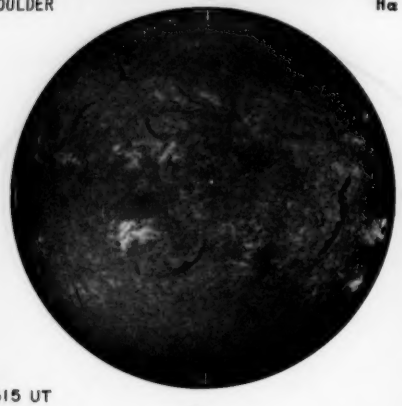
Sp

Sp

29

BOULDER

Np



E W

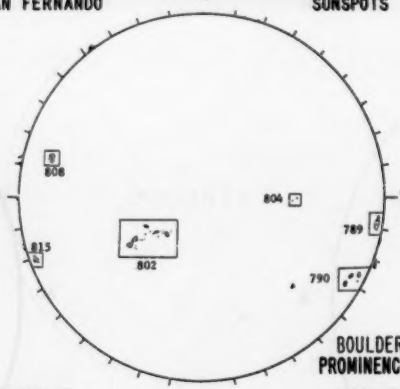
1315 UT

Sp

Hα

SAN FERNANDO

Np



E W

2000 UT

Sp

SUNSPOTS

HALE OBSERVATORIES

Np

NO DATA

E W

Sp

BOULDER PROMINENCES

1315 UT

CALCIUM REPORT

NOSC LA POSTA

Np

2.0 CM

NO DATA

E W

EQUIPMENT

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E W

WEATHER

---- UT

Sp

Ant. Temp. Unit 100° K

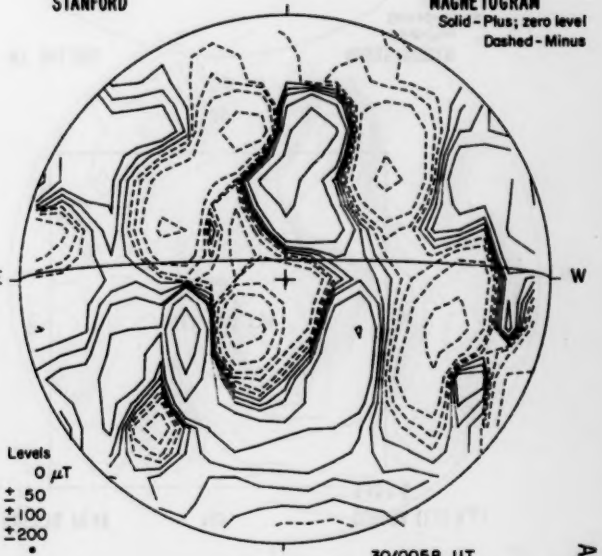
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

30/0058 UT

Sp

109

Apr 80

APRIL 30, 1980 (P = -24.32, B_o = -4.22, L_o = 163.53)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E — NO DATA — W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

E — NO DATA — W

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E — NO DATA — W

Sp

Levels
± 5
± 10
± 20
± 40
± 80

Np

Hα

BOULDER

Np

SUNSPOTS

HALE OBSERVATORIES

Np

CALCIUM REPORT

Sp

Sp

30

Np

Hα

E

NO DATA

W

Sp

BOULDER

Np

SUNSPOTS

E

NO DATA

W

NO DATA

Sp

BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES

Np

CALCIUM REPORT

E

NO DATA

W

Sp

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

EQUIPMENT

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

W

Levels

0 μT

± 50

±100

±200

Sp

1705 UT

111

Apr 80

REGIONS OF SOLAR ACTIVITY

APRIL 1980

HALE REGION 16742 CMP DATE 1.8

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	3	25	16742					21343	S12 E65	185	AP	2				
80	3	26	16742	S12 E70	184	500	3.5	21343	S13 E69	186	(AP)	5	B	120	3	DSO
80	3	27	16742					21343	S13 E55	185	(BP)	5	A	260	11	DSI
80	3		16742					21345	S09 E60	184	(B)	2	A	10	1	AXX
80	3	28	16742	S13 E45	184	2000	3.0	21343	S14 E44	186	(BP)	5				
80	3	29	16742	S13 E30	184	1800	3.5	21343	S14 E30	187	(BP)	5	B	160	10	CAI
80	3	30	16742					21343	S14 E18	186	(BP)	4	A	290	11	CAO
80	3		16742					21352	S08 E25	179	(B)	3	A	60	12	DRO
80	3	31	16742					21343	S14 E05	187	(BP)	4	A	200	9	CKO
80	3		16742					21352	S09 E13	179	(BP)	2	A	20	5	BXO
80	4	1	16742	S13 W12	165	1000	3.5	21343	S14 W07	184	BP	4	A	160	5	CHO
80	4	2	16742						S13 W20				H	220	7	CHO
80	4	3	16742	S13 W35	163	1100	3.0	21343	S14 W35	165	(BP)	4				
80	4	4	16742					21343	S14 W46	184	(BY)	4				
80	4	6	16742	S12 W75	184	1000	3.0	21343	S13 W71	183	(BP)	3				
80	4	7	16742	S14 W80	173	200	2.0	21343	S14 W85	182	AP	1				

HALE REGION 16745 CMP DATE 1.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	1	16745	S09 W05	178	400	3.0		S08 E04				R	10	1	AXX
80	4	3	16745	S09 W29	177	400	2.5									

HALE REGION 16748 CMP DATE 1.9

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	3	26	16748	N26 E72	182	1000	4.0	21344	N25 E35	172	(AP)	5	B	350	2	HHX
80	3	27	16748					21344	N25 E64	180	(BY)	5	A	690	14	EKO
80	3	28	16748	N26 E51	178	2400	3.5	21344	N25 E54	176	(BY)	5				
80	3	29	16748	N26 E36	173	2200	3.5	21344	N25 E39	176	(D)	5	B	510	9	EKI
80	3	30	16748					21344	N25 E26	176	(D)	5	A	650	42	EKI
80	3	31	16748					21344	N25 E15	177	(D)	4	A	440	23	EKI
80	4	1	16748	N27 W01	174	2700	3.5	21344	N25 E01	176	BY	4	A	410	34	EKI
80	4	2	16748						N26 W13				H	510	27	DKI
80	4	3	16748	N29 W22	178	2200	3.0	21344	N26 W25	175	(BY)	5	B	260	20	DKI
80	4	4	16748					21344	N27 W37	175	(BY)	5	B	500	9	DKI
80	4	5	16748						N27 W50				B	370	7	DKO
80	4	6	16748	N27 W61	170	1500	3.0	21344	N27 W63	175	(AP)	4				
80	4	7	16748	N28 W78	171	600	2.5	21344	N27 W76	173	AP	2				

HALE REGION 16743 CMP DATE 3.7 RETURN OF REGION 16694 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	3	28	16743	N09 E75	154	600	3.5									
80	3	29	16743	N08 E61	153	1700	3.5	21351	N06 E67	150	(AP)	2				
80	3	31	16743					21353	N07 E39	153	AP	1				
80	4	1	16743	N06 E21	152	1700	3.5									
80	4	2	16743						N09 E12				H	20	2	BXO
80	4	3	16743	N12 W01	149	1800	3.0	21354	N08 W02	152	(BP)	2	B	10	2	BXO
80	4	6	16743	N12 W42	151	1200	3.0	21354	N10 W40	152	(B)	3				
80	4	7	16743	N12 W51	144	600	2.5	21354	N12 W35	152	AP	1				
80	4	8	16743	N10 W69	151	300	2.0									

HALE REGION 16744 CMP DATE 4.1 RETURN OF REGION 16699 ROTATIONS 9 AND 5

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	3	29	16744	S13 E73	141	900	2.5	21350	S10 E83	134	(AP)	2	B	70	1	HAX
80	3	30	16744					21350	S12 E66	136	(AP)	4	B	40	1	HAX
80	3	31	16744					21350	S12 E55	137	(AP)	4	B	60	1	HSX
80	4	1	16744	S13 E31	142	1800	3.0	21350	S12 E41	136	AP	4	B	100	1	HSA
80	4	2	16744						S11 E27				H	90	1	HSX
80	4	3	16744	S13 E05	143	1200	3.0	21350	S10 E14	136	(AP)	4				
80	4	4	16744					21350	S10 E01	137	(AP)	4				
80	4	6	16744	S12 W35	144	1400	2.5	21350	S09 W25	137	(AP)	4				
80	4	7	16744	S13 W45	138	1000	2.0	21350	S08 W38	135	(AP)	3				
80	4	8	16744	S12 W60	142	700	1.5	21350	S08 W52	137	(AP)	3				

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HALE REGION 16744 (CONT)

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	5	16744	S08 W66	135	100	2.0	21358	S08 W65	137	(AP)	2	B	0	1	AXX
80	4		16744					21369	S06 W85	157	(X)	2				

HALE REGION 16750 CMP DATE 4.6

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	3	16750	S06 E15	133	200	2.0									
80	4	6	16750	S06 W27	136	200	2.5									
80	4	7	16750	S07 W37	130	100	2.0									
80	4	8	16750	S07 W49	131	100	2.0									

HALE REGION 16751 CMP DATE 5.5 RETURN OF NORTHEAST PART OF REGION 16696 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	3	16751	N14 E29	119	100	1.5									
80	4	6	16751	N12 W17	126	200	2.0									
80	4	7	16751	N11 W27	120	100	2.0									

HALE REGION 16746 CMP DATE 5.6 RETURN OF TRAILING PART OF REGION 16696 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	1	16746	N10 E50	123	900	2.0									
80	4	3	16746	N09 E22	126	400	1.5									
80	4	6	16746	N07 W16	125	300	2.0									
80	4	7	16746	N07 W31	124	200	2.5									
80	4	8	16746	N07 W42	124	200	2.5									

HALE REGION 16774 CMP DATE 5.8

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	10	16774	S31 W66	122	100	2.0		S37 W65				H	10	1	AXX
80	4	11	16774	S30 W78	123	200	3.5	21377	S32 W77	122	(B)	2				

HALE REGION 16755 CMP DATE 6.2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	6	16755	N19 W08	117	200	2.0									
80	4	7	16755	N21 W23	116	100	1.5									

HALE REGION 16748 CMP DATE 6.3 RETURN OF LEADING PART OF REGION 16701 ROTATION 5

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	1	16748	S13 E54	119	200	3.0									
80	4	3	16748	S15 E29	119	500	3.0									
80	4	6	16748	S19 W07	116	400	1.5									
80	4	7	16748	S16 W22	115	300	2.0									

HALE REGION 16747 CMP DATE 7.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	1	16747	N12 E70	103	100	3.0									
80	4	2	16747						N14 E70				H	10	1	AXX
80	4	3	16747	N13 E43	105	400	2.5									
80	4	4	16747					21358	N13 E34	104	(3)	3	3	10	2	AXX
80	4	5	16747						N11 E21				3	200	16	DKI

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HALE REGION 16747 (CONT) CMP DATE 7.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	6	16747	N11 E06	103	2200	4.0	21356	N13 E08	104	(D)	5	S	650	34	EHI
80	4	7	16747	N13 W05	102	2500	3.5	21358	N13 W05	102	(D)	6				
80	4	8	16747	N13 W20	102	2200	3.5	21358	N13 W17	102	(D)	6				
80	4	9	16747	N13 W33	102	2300	3.0	21358	N13 W30	102	(D)	5	E	1530	48	EKI
80	4	10	16747	N13 W46	102	2400	3.0	21358	N13 W44	102	(D)	6	M	970	13	EKI
80	4	11	16747	N13 W58	103	2200	2.5	21358	N13 W56	101	(BY)	5	-	750	24	SKI
80	4	12	16747	N13 W75	104	1500	2.5	21358	N13 W70	102	(B)	3	B	630	8	EKI
80	4	13	16747					21358	N13 W79	98	AF	3	B	30	6	HRO

HALE REGION 16749 CMP DATE 8.1

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	1	16749	S23 E63	110	300	2.5									
80	4	3	16749	S21 E52	96	700	2.5									
80	4	6	16749	S21 E14	95	400	3.0									
80	4	7	16749	S20 E02	91	300	3.0									
80	4	8	16749	S20 W10	92	300	3.0									
80	4	9	16749	S20 W25	94	200	3.0									
80	4	10	16749	S20 W33	89	200	2.5									
80	4	11	16749	S22 W45	90	100	1.5									
80	4	12	16749	S22 W58	87	100	2.0									
80	4	13	16749	S21 W70	86	100	2.0									

HALE REGION 16753 CMP DATE 9.2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	3	16753	N15 E60	88	300	3.5	21356	N15 E58	92	(AP)	3	S	10	1	AXX
80	4	4	16753					21356	N15 E45	93	(AP)	3	S	0	1	AXX
80	4	5	16753						N15 E30				S	10	1	AXX
80	4	6	16753	N16 E22	87	300	3.0		N13 E16				S	0	1	AXX
80	4	7	16753	N15 E03	90	200	3.0									
80	4	8	16753	N13 W10	92	100	3.0									

HALE REGION 16754 CMP DATE 9.5

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	3	16754	S13 E77	71	300	3.0									
80	4	4	16754					21359	S11 E66		(AP)	2				
80	4	6	16754	S14 E25	94	300	3.0									
80	4	7	16754	S14 E09	84	200	3.0	21365	S14 E11		(B)	2				
80	4	8	16754	S14 W02	84	200	3.0									
80	4	9	16754	S14 W17	86	100	2.5	21370	S15 W16	88	(B)	2				
80	4	10	16754	S14 W32	88	100	2.5									
80	4	11	16754	S13 W43	88	100	1.5									

HALE REGION 16752 CMP DATE 8.7

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	3	16752	N21 E61	87	1500	4.0	21355	N23 E66	84	(BY)	4	S	420	16	EKI
80	4	4	16752					21355	N23 E53	85	(D)	4	S	450	8	EKI
80	4	5	16752						N20 E36				B	1080	12	EKI
80	4	6	16752	N22 E25	84	3500	4.0	21355	N23 E26	86	(BY)	5	B	850	33	EKI
80	4	7	16752	N21 E10	83	3600	4.0	21355	N24 E13	84	(BY)	5				
80	4	8	16752	N23 W03	85	4200	3.5	21355	N23 W01	86	(BY)	5				
80	4	9	16752	N23 W16	85	3700	3.5	21355	N23 W14	86	(D)	5	S	1730	44	EKI
80	4	10	16752	N24 W28	84	3600	3.5	21355	N23 W26	84	(D)	5	M	1130	37	EKC
80	4	11	16752	N24 W41	86	3800	2.5	21355	N23 W38	83	(D)	5	B	1520	54	EKC
80	4	12	16752	N24 W55	84	3000	2.5	21355	N23 W51	83	(B)	4	B	1600	13	EKI
80	4	13	16752	N25 W69	85	2200	2.5	21355	N23 W65	84	(B)	5	B	920	32	EKI
80	4	14	16752	N25 W75	78	1300	3.0	21355	N23 W75	81	B	3	B	620	8	EKI

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HALE REGION 16765 — CMP DATE 9.0 — RETURN OF CENTRAL PART OF REGION 16702 — ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
80	4	7	16765	N14 E15	78	100	3.0							
80	4	8	16765	N14 E02	80	200	3.0							

HALE REGION 16760 — CMP DATE 10.0

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
80	4	6	16760	S24 E37	72	200	2.5							
80	4	7	16760	S24 E25	68	300	2.0							
80	4	8	16760	S25 E17	65	400	2.0							
80	4	9	16760	S25 E03	66	200	2.0							
80	4	10	16760	S25 W13	69	100	2.0							
80	4	11	16760	S25 W25	70	100	2.0							

HALE REGION 16759 — CMP DATE 10.3 — RETURN OF REGION 16705 — ROTATIONS 7 AND 6

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
80	4	6	16759	S17 E44	65	1300	3.5							
80	4	7	16759	S16 E31	62	1600	3.0							
80	4	8	16759	S17 E20	62	2200	3.5							
80	4	9	16759	S17 E16	53	1400	3.5							
80	4	10	16759	S17 W07	63	900	3.0	21373	S21 E07	51	(AF)	2		
80	4	11	16759	S17 W19	64	1800	3.0							
80	4	12	16759	S17 W32	61	1100	2.5							
80	4	13	16759	S17 W45	61	1600	2.5							
80	4	14	16759	S18 W53	56	900	2.5	21387	S22 W45	51	(AF)	2		
80	4	15	16759	S22 W62	52	400	2.5	21387	S22 W58	51	(AF)	2		
80	4	16	16759	S20 W71	47	100	2.0							

HALE REGION 16761 — CMP DATE 10.8

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
80	4	6	16761	S11 E55	54	400	3.0	21361	S08 E57		(B)	3		
80	4	7	16761	S10 E38	55	300	3.0							
80	4	8	16761	S11 E28	54	400	3.0							
80	4	9	16761	S11 E13	56	300	3.0							
80	4	10	16761	S10 W01	57	200	2.5	21372	S10 E00	58	(AP)	2		
80	4	11	16761	S10 W13	58	300	2.5							
80	4	12	16761	S10 W28	57	100	2.5							
80	4	13	16761	S09 W42	58	100	2.5							
80	4	14	16761	S10 W55	58	100	2.0							

HALE REGION 16757 — CMP DATE 11.0 — RETURN OF REGION 16703 — ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
80	4	6	16757	N17 E52	57	1500	3.0							
80	4	7	16757	N16 E35	58	1500	3.0	21366	N15 E35		AP	1		
80	4	8	16757	N17 E22	60	2300	3.0							
80	4	9	16757	N17 E15	54	1100	3.0							
80	4	10	16757	N17 E03	53	1100	2.5	21374	N24 W09	66	(B)	2		
80	4		16757					21375	N18 E11	47	(AF)	2		
80	4	11	16757	N17 W11	56	2100	2.5							
80	4	12	16757	N18 W23	52	700	2.5							
80	4	13	16757	N19 W40	56	700	2.5	21383B	N17 W34	53	(B)	2		
80	4	14	16757	N19 W52	55	300	2.5							
80	4	15	16757	N18 W65	55	300	2.0							

HALE REGION 16758 — CMP DATE 11.1 — RETURN OF SOUTHEAST PART OF REGION 16703 — ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
80	4	6	16758	N09 E57	52	300	2.5							
80	4	7	16758	N10 E40	53	200	2.0							
80	4	8	16758	N10 E29	53	200	2.5							

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HALE REGION 16758 (CONT)

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	9	16758	N09 E17	52	100	2.0									

HALE REGION 16766 CMP DATE 11.2 RETURN OF NORTH CENTRAL PART OF REGION 16703 ROTATION 4

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	6	16766					21360	N20 E56	56	(B)	3				
80	4	7	16766	N21 E41	52	400	3.0	21360	N20 E42	55	(AP)	2				
80	4	8	16766	N22 E32	50	400	3.0									

HALE REGION 16762 CMP DATE 12.1 NEW REGION IN LOCATION OF LEADING PART OF REGION 16714 AND TRAILING PART OF REGION 16707

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	6	16762	S18 E65	44	1300	3.0	21363	S20 E72	40	(AP)	4				
80	4	7	16762	S16 E52	41	3200	3.5	21363	S20 E58	39	(BP)	4				
80	4	8	16762	S17 E42	40	4000	3.5	21363	S20 E46	39	(BP)	5	B	200	4	DSO
80	4	9	16762	S18 E28	41	4100	3.5	21363	S20 E33	39	(BP)	5				
80	4	10	16762	S18 E17	39	4000	3.5	21363	S20 E20	38	(BF)	4	H	200	14	CHO
80	4	11	16762	S18 E05	40	4000	4.0	21363	S20 E07	38	(BY)	5	G	330	17	CHO
80	4		16762						S23 W04				A	10	1	AXX
80	4	11	16762					21378	S08 W05	50	AP	1				
80	4	12	16762	S16 W09	37	3300	2.5	21363	S20 W05	37	(BY)	4	G	300	7	CAO
80	4	13	16762	S18 W24	40	3200	3.0	21363	S20 W19	38	(BP)	4	B	270	9	HKO
80	4	14	16762	S18 W34	37	2600	3.0	21363	S20 W31	37	(BP)	5	B	260	3	HKX
80	4	15	16762	S18 W46	36	2400	3.0	21363	S20 W45	36	(BP)	4	B	220	3	HKX
80	4	15	16762					21389	S08 W56	49	(AP)	2				
80	4	16	16762	S18 W58	34	1100	2.5	21363	S20 W58	39	(AP)	4	B	140	2	HAX
80	4	17	16762	S21 W68	33	500	2.5	21363	S21 W71	36	(AP)	3	B	80	2	HAX
80	4	18	16762					21363	S21 W85	39	AP	2				

HALE REGION 16756 CMP DATE 12.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	6	16756	N35 E75	34	400	3.0	21362	N36 E70	42	(AP)	2				
80	4	7	16756	N37 E55	38	400	3.5	21362	N36 E60	37	(BP)	2				
80	4	8	16756	N37 E43	39	600	3.5	21362	N37 E47	36	(B)	2	B	10	1	DSO
80	4	9	16756	N37 E35	34	1000	3.5	21362	N37 E33	39	(B)	2				
80	4	10	16756	N37 E22	34	700	3.0	21362	N37 E25	33	AP	1				
80	4	11	16756	N37 E11	34	900	3.0	21362	N35 E05	40	(B)	2				
80	4	12	16756	N37 W04	33	400	3.0									
80	4	13	16756	N38 W14	38	500	3.0									
80	4	14	16756	N38 W24	27	700	3.0									
80	4	15	16756	N38 W41	31	400	3.0									
80	4	16	16756	N39 W52	28	300	2.0									
80	4	17	16756	N38 W62	27	400	2.5									

HALE REGION 16767 CMP DATE 12.6

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	6	16767	S47 E67	42	200	3.0									
80	4	7	16767	S46 E57	36	200	3.0									
80	4	8	16767	S47 E48	34	200	3.0									
80	4	9	16767	S47 E36	33	200	3.0									
80	4	10	16767	S47 E22	34	200	2.5									
80	4	11	16767	S47 E12	33	200	2.0									
80	4	12	16767	S48 E01	29	300	2.5									
80	4	13	16767	S48 W12	28	300	2.5									
80	4	14	16767	S47 W24	27	300	1.5									
80	4	15	16767	S46 W38	28	100	1.0									
80	4	16	16767	S48 W49	24	200	1.0									
80	4	17	16767	S48 W58	23	100	1.5									

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HALE REGION 16763 CMP DATE 13.9 NEW REGION IN LOCATION OF SOUTHERN PART OF REGION 16714 ROTATIONS 5 AND 4

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	6	16763	S31 E85	21	500	2.5	21364	S29 E85	27	(AP)	2				
80	4	7	16763	S29 E70	23	600	3.5	21364	S29 E70	67	(BP)	4				
80	4	8	16763	S2[illegible] E61	21	2500	3.5	21364	S30 E62	23	(BP)	4	B	310	5	CSO
80	4	9	16763	S30 E49	20	2600	3.5	21364	S30 E51	21	(BP)	5	B	450	7	FKO
80	4	10	16763	S29 E38	18	4600	3.5	21364	S30 E40	18	(BP)	5	H	400	25	FHO
80	4	11	16763	S29 E26	19	4500	4.0	21364	S31 E27	18	(D)	4	B	710	34	FKO
80	4	12	16763	S29 E13	16	4000	3.[illegible]	21364	S31 E15	17	(D)	5	B	920	22	FKI
80	4	13	16763	S2[illegible] E00	16	4200	3.5	21364	S31 E01	16	(BY)	5	B	430	57	FKI
80	4	14	16763	S28 W12	15	4200	3.5	21364	S30 W10	16	(D)	5	B	460	24	FKO
80	4	15	16763	S30 W24	14	4300	3.5	21364	S31 W23	16	(BY)	5	B	260	19	FKO
80	4	16	16763	S30 W40	16	4200	3.5	21364	S31 W36	17	(B)	4	B	170	10	FHO
80	4	17	16763	S30 W45	10	3300	3.5	21364	S31 W50	17	(BP)	4	B	190	8	CAO
80	4	18	16763	S31 W59	6	1500	3.5	21364	S30 W70	24	(BP)	3				
80	4	19	16763	S32 W68	6	1200	3.[illegible]	21364	S31 W75	16	(B)	3				
80	4	20	16763	S32 W80	5	300	2.5	21364	S32 W83	11	(B)	3	B	190	10	DAO

HALE REGION 16768 CMP DATE 14.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	7	16768	S07 E78	15	600	3.5	21367	S08 E80	17	AP	2				
80	4	8	16768	S07 E67	15	1500	4.0	21367	S08 E70	15	(BP)	4				
80	4	9	16768	S08 E55	14	3000	3.5	21367	S08 E59	13	(D)	4	B	570	7	DKO
80	4	10	16768	S08 E43	13	3900	4.0	21367	S08 E46	12	(BP)	5	H	540	30	EKO
80	4	11	16768	S09 E32	13	4000	4.[illegible]	21367	S08 E34	11	(D)	4	K	660	32	CKO
80	4	12	16768	S09 E17	12	4000	3.5	21367	S08 E20	12	(BY)	5	B	870	16	EKI
80	4	13	16768	S09 E04	12	4000	3.5	21367	S08 E06	13	(D)	5	B	550	54	FKI
80	4	14	16768	S08 W08	11	3900	3.5	21367	S08 W06	12	(D)	4	B	540	37	EKI
80	4	15	16768	S09 W22	12	3600	3.5	21367	S08 W20	13	(D)	3	B	380	22	CKI
80	4	16	16768	S08 W37	13	3800	3.[illegible]	21367	S08 W34	15	(B)	4	B	360	24	EKI
80	4	17	16768	S08 W47	12	3100	3.[illegible]	21367	S08 W47	14	(BP)	4	B	190	33	ESO
80	4	18	16768	S08 W61	10	1800	3.0	21367	S07 W64	18	(BP)	4				
80	4	19	16768	S08 W73	11	900	3.[illegible]	21367	S08 W75	16	(BP)	3				

HALE REGION 16769 CMP DATE 14.7

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	8	16769	N23 E72	10	500	1.5									
80	4	9	16769	N22 E64	5	600	2.5									
80	4	10	16769	N22 E49	7	500	3.[illegible]									
80	4	11	16769	N22 E39	6	600	2.5									
80	4	12	16769	N22 E25	4	500	2.5									
80	4	13	16769	N24 E12	4	300	3.0									
80	4	14	16769	N24 W01	4	200	2.5									
80	4	15	16769	N23 W13	3	300	2.0									
80	4	16	16769	N23 W28	4	200	1.0									
80	4	17	16769	N23 W38	3	300	2.0									
80	4	18	16769	N22 W51	0	100	2.0									
80	4	19	16769	N21 W62	0	100	1.5									

HALE REGION 16776 CMP DATE 15.[illegible]

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	12	16776	S17 E32	358	100	2.5									
80	4	13	16776	S15 E16	0	100	3.0									
80	4	14	16776	S15 E03	0	100	1.5									

HALE REGION 16770 CMP DATE 15.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	8	16770	N06 E77	5	200	2.[illegible]	21368	N08 E80	5	(X)	1				
80	4	9	16770	N09 E69	0	600	3.0	2136[illegible]	N09 E70	2	(AP)	3	H	0	2	AXX
80	4	10	16770	N08 E57	0	600	3.5	21363	N09 E57	1	(AP)	3	H	10	3	HSX
80	4	11	16770	N09 E45	0	800	3.[illegible]	2136[illegible]	N09 E42	3	(BP)	3	H	20	5	CRO
80	4	12	16770	N08 E30	0	800	3.[illegible]	2136[illegible]	N09 E30	2	(AP)	2	S	10	1	HSX
80	4	13	16770	N10 E16	0	700	3.[illegible]									
80	4	14	16770	N10 E04	0	400	3.0									

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HALE REGION 16770 (CONT) CMP DATE 13.1

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NN NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	15	16770	N10 W11	1	500	3.0		N08 W19				B	380	22	EKI
80	4	16	16770	N11 W24	0	300	2.5									
80	4	17	16770	N10 W34	359	300	2.5									
80	4	18	16770	N12 W52	1	200	2.5									
80	4	19	16770	N11 W63	1	200	2.0									
80	4	20	16770	N11 W75	0	100	3.0									

HALE REGION 16786 CMP DATE 15.1

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NN NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	18	16786	S15 W51	0	100	2.5	21394	S16 W47		(AF)	2				
80	4	19	16786	S15 W63	1	100	3.0	21398	S16 W62		(B)	3				
80	4	20	16786					21396	S16 W77		(B)	3				

HALE REGION 16771 CMP DATE 16.3 RETURN OF REGION 16721 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NN NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	9	16771	S26 E77	353	700	2.5									
80	4	10	16771	S23 E69	348	3800	3.0	21376	S24 E61	358	AP	1				
80	4	11	16771	S23 E58	345	2400	3.0	21382	S19 E62	344	AP	1				
80	4	11	16771					21383A	S27 E64		AP	1				
80	4	12	16771	S23 E45	345	3600	3.0	21382	S19 E51	342	(AF)	2	B	30	2	BAO
80	4	13	16771	S23 E30	347	3700	3.5	21382	S18 E37	343	(B)	3	B	10	3	AXX
80	4		16771					21384	S25 E24	356	B	1				
80	4		16771					21386	S32 E47	333	(AF)	2				
80	4	14	16771	S23 E19	345	3200	3.5	21382	S17 E24	343	(B)	3	B	30	10	CRO
80	4		16771					21388	S24 E22	345	(AP)	2				
80	4	15	16771	S24 E07	344	4000	3.5	21382	S18 E11	343	(BY)	2	B	10	4	BXO
80	4		16771					21388	S26 E06	346	(AP)	2	B	10	3	BXO
80	4		16771					21391	S22 E02	352	AP	1				
80	4		16771					21392	S31 E03	351	AP	1				
80	4	15	16771					21393	S27 E13		(B)	3				
80	4	16	16771	S24 W07	343	4100	3.5	21382	S19 W02	343	(BY)	2	B	10	2	AXX
80	4		16771					21388	S26 W06	349	(AP)	2	B	8	1	AXX
80	4	16	16771					21393	S27 E03		(BF)	3				
80	4	17	16771	S25 W17	342	3900	3.5	21393	S27 W11		(B)	4				
80	4	18	16771	S25 W32	341	4000	3.5	21393	S27 W24		(B)	4				
80	4	18	16771					21395	S24 W30		(AP)	2				
80	4	18	16771					21400	S16 W31		AP	1				
80	4	19	16771	S25 W42	340	3600	3.5	21393	S27 W37		(B)	4				
80	4	19	16771					21395	S24 W52		(AP)	2				
80	4	19	16771					21400	S17 W45		B	1				
80	4	20	16771	S25 W53	338	2600	2.5	21393	S28 W50		(B)	3				
80	4	21	16771						S27 W62				B	20	7	BXO
80	4	24	16771	S24 W66	298	300	2.0									
80	4	25	16771	S24 W79	298	100	2.0									

HALE REGION 16772 CMP DATE 16.5

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NN NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	10	16772	N19 E75	342	300	3.0		N20 E75				H	10	1	AXX
80	4	11	16772	N19 E64	342	400	3.5	21380	N19 E69	337	(AP)	2				
80	4	12	16772	N17 E51	339	700	3.0	21380	N19 E56	337	(AP)	2				
80	4	13	16772	N19 E37	340	1000	3.5	21380	N18 E39	341	(AF)	4	B	30	13	CRO
80	4	14	16772	N19 E23	341	500	3.5	21380	N19 E25	342	(BP)	4	B	120	6	DAO
80	4	15	16772	N19 E10	341	1000	4.0	21380	N18 E11	343	(BF)	5	B	110	14	DAI
80	4	16	16772	N19 W06	342	1100	3.0	21380	N19 W03	344	(B)	3	B	80	11	BXI
80	4	17	16772	N19 W17	342	1400	3.5	21380	N19 W16	343	(BP)	4	B	20	14	EXO
80	4	18	16772	N20 W33	342	700	3.5	21380	N20 W31	345	(B)	2	B	0	1	AXX
80	4	19	16772	N19 W44	342	700	3.0									
80	4	20	16772	N20 W58	343	300	2.5									

HALE REGION 16773 CMP DATE 16.7

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	NN NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	10	16773	N13 E76	339	200	2.5									
80	4	11	16773	N13 E70	336	400	3.5	21381	N15 E70	336	(AF)	2				

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HALE REGION 16773 (CONT) CMP DATE 16.7

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	12	16773	N13 E55	335	600	3.5									
80	4	13	16773	N14 E41	336	1200	3.5	21385	N13 E43	337	(D)	3	B	100	21	DAI
80	4	14	16773	N14 E28	336	900	3.5	21385	N13 E30	337	(B)	4	B	40	16	DAO
80	4	15	16773	N14 E15	336	2000	4.0	21385	N12 E16	338	(B)	4	B	80	1	DRO
80	4	16	16773	N13 W03	339	1300	3.0	21385	N13 E03	338	(D)	4	B	60	12	CSI
80	4	17	16773	N13 W13	338	1500	3.5	21385	N14 W11	338	(B)	4	B	30	19	BXO
80	4	18	16773	N14 W29	338	1700	3.5	21385	N13 W25	339	(B)	4	B	30	13	CRI
80	4	19	16773	N14 W41	339	1700	3.0	21385	N12 W40	341	(BY)	4	B	160	13	DAI
80	4	20	16773	N14 W55	348	900	2.0	21385	N12 W55	343	(BY)	4	B	100	16	CSO
80	4	21	16773						N13 W67				B	100	4	CSO

HALE REGION 16775 CMP DATE 17.4

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	11	16775	N20 E74	332	100	3.5		N19 E70				R	10	1	AXX
80	4	12	16775	N20 E60	330	200	3.0									
80	4	13	16775	N22 E47	330	300	3.5									
80	4	14	16775	N22 E35	329	300	3.0									
80	4	15	16775	N22 E22	329	400	3.0									
80	4	16	16775	N22 E06	330	100	3.0									
80	4	17	16775	N22 W04	329	300	3.0									
80	4	18	16775	N23 W19	328	400	3.0	21404	N21 W14	328	(AF)	2				
80	4	19	16775	N23 W39	337	200	2.5									
80	4	20	16775	N23 W42	327	100	2.5									

HALE REGION 16776 CMP DATE 19.4 RETURN OF REGION 16727 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	13	16776	N14 E78	299	200	3.0									
80	4	14	16776	N14 E60	304	400	3.5									
80	4	15	16776	N14 E48	303	600	3.0									
80	4	16	16776	N13 E32	304	700	3.0									
80	4	17	16776	N13 E23	302	800	3.0									
80	4	18	16776	N13 E06	303	800	3.0									
80	4	19	16776	N13 W05	303	600	3.0	21405	N08 W01		(B)	2				
80	4	20	16776	N13 W18	303	600	2.5	21405	N08 W14		(B)	2				

HALE REGION 16777 CMP DATE 19.5 RETURN OF REGION 16725 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	13	16777	S25 E70	307	300	2.5									
80	4	14	16777	S25 E62	302	400	2.5									
80	4	15	16777	S27 E51	300	700	2.5	21394	S25 E45	309	(AP)	2				
80	4	16	16777	S27 E35	301	1000	3.0	21395	S21 E41	300	(AF)	2				
80	4	17	16777	S26 E25	300	1100	3.0									
80	4	18	16777	S26 E07	302	1000	3.0									
80	4	19	16777	S26 W04	302	900	3.0									
80	4	20	16777	S26 W18	303	700	2.0									
80	4	24	16777	S25 W48	280	200	2.0									
80	4	25	16777	S23 W63	282	200	2.0									

HALE REGION 16782 CMP DATE 20.7 RETURN OF REGION 16728 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	16	16782	S24 E50	286	500	2.5									
80	4	17	16782	S23 E38	287	300	2.5									
80	4	18	16782	S24 E23	286	400	3.0									
80	4	19	16782	S24 E12	286	400	3.0									
80	4	20	16782	S24 E01	284	200	3.0	21408	S25 E04	284	(AP)	2				
80	4	21	16782						S23 W09				B	10	2	AXX

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HALE REGION 16760 — CMP DATE 21.1 — RETURN OF PART OF THE LEADING NORTH EDGE OF REGION 16730 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	15	16760	N14 E68	283	100	2.0									
80	4	16	16760	N15 E60	276	500	3.0									
80	4	17	16760	N13 E45	280	300	2.0									
80	4	18	16760	N13 E30	279	200	2.5									
80	4	19	16760	N13 E17	281	200	2.5									
80	4	20	16760	N13 E04	281	300	2.5									

HALE REGION 16779 — CMP DATE 21.7 — RETURN OF REGION 16726 ROTATION 6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	15	16779	N26 E63	286	100	2.0									
80	4	16	16779	N26 E57	279	300	3.0									
80	4	17	16779	N26 E45	280	200	2.0									
80	4	18	16779	N26 E35	274	500	2.5									
80	4	19	16779	N29 E24	274	600	2.5									
80	4	20	16779	N29 E12	273	500	2.5									
80	4	24	16779	N30 W32	264	400	2.0									
80	4	25	16779	N32 W41	260	300	2.5									

HALE REGION 16781 — CMP DATE 21.7 — RETURN OF LEADING PORTION OF REGION 16730 ROTATIONS 4 AND 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	15	16781	N08 E72	279	200	1.5									
80	4	16	16781	N07 E59	277	600	2.5									
80	4	17	16781	N07 E51	274	1000	2.5									
80	4	18	16781	N07 E32	277	800	2.5									
80	4	19	16781	N08 E20	275	700	3.0									
80	4	20	16781	N08 E12	273	300	2.0									

HALE REGION 16783 — CMP DATE 22.4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	16	16783	S17 E71	265	900	4.0	21396	S14 E74	267	(BP)	3	P	10	1	AXX
80	4	17	16783	S17 E64	261	900	4.0	21396	S16 E63	264	(BP)	4	B	60	15	CAO
80	4	18	16783	S17 E45	264	1700	4.0	21396	S17 E49	265	(B)	4				
80	4	19	16783	S17 E34	264	2200	4.0	21396	S16 E35	266	(B)	4	B	190	10	EAI
80	4	20	16783	S17 E20	265	1800	3.5	21396	S17 E22	266	(BP)	4	B	70	34	ESI
80	4	21	16783						S17 E03				B	120	24	ESI
80	4	22	16783						S16 W05				B	60	6	BXO
80	4	23	16783						S17 W16				H	130	8	BAO
80	4	24	16783	S16 W32	264	1600	2.5	21396	S18 W32	266	(B)	3	P	40	8	DRO
80	4	25	16783	S17 W45	264	1500	3.0									
80	4	27	16783	S17 W72	264	400	3.0									

HALE REGION 16784 — CMP DATE 22.7 — RETURN OF NORTHEAST PART OF REGION 16730 ROTATIONS 4 AND 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	17	16784	N20 E62	263	400	2.5									
80	4	18	16784	N19 E44	265	500	3.0									
80	4	19	16784	N17 E37	261	500	2.5									
80	4	20	16784	N17 E24	261	400	2.5									
80	4	24	16784	N17 W27	259	400	2.0									
80	4	25	16784	N18 W40	259	400	2.5									
80	4	27	16784	N18 W63	255	200	3.0									

HALE REGION 16785 — CMP DATE 23.3 — RETURN OF REGION 16729 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	17	16785	S28 E71	254	100	2.0									
80	4	18	16785	S30 E53	256	500	3.0	21401	S27 E58		(AF)	3				
80	4	19	16785	S30 E43	255	500	3.0									
80	4	20	16785	S30 E32	253	1100	3.0	21411	S27 E32	256	(BF)	3	P	0	1	AXX

CONTD

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HALE REGION 16785 (CONT) CMP DATE 23.3 RETURN OF REGION 16729 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	21	16785						S27 E17				6	50	4	CSO
80	4	22	16785						S25 E03				6	10	2	BXO
80	4	23	16785						S30 E04				H	50	6	DAO
80	4	24	16785	S30 W19	251	600	2.5									
80	4	25	16785	S29 W32	251	600	2.5									
80	4	27	16785	S29 W60	252	200	2.5									

HALE REGION 16787 CMP DATE 24.1 NEW PLAGE IN LOCATION OF TRAILING REGION 16731

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	18	16787	N23 E62	247	900	3.5	21402	N24 E78	236	(X)	1				
80	4	19	16787	N23 E53	245	1400	4.0	21402	N23 E63	238	(B)	3	6	80	2	CSO
80	4	20	16787	N23 E42	243	1700	3.5	21402	N23 E49	239	(B)	4				
80	4	24	16787	N23 W09	241	1700	3.0	21402	N22 W05	239	(B)	4	P	50	6	DRC
80	4	25	16787	N23 W22	241	2400	3.0	21402	N22 W17	238	(B)	4	6	20	5	BXI
80	4	26	16787					21402	N22 W33	241	(AP)	4	B	30	2	CSO
80	4	27	16787	N23 W48	240	1100	3.0	21402	N23 W42	236	(AF)	3	6	0	3	BXO

HALE REGION 16789 CMP DATE 24.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	17	16789					21397	S12 E87	240	(X)	3	6	130	1	AXX
80	4	18	16789	S12 E70	239	1400	3.5	21397	S12 E79	235	(B)	4				
80	4	19	16789	S13 E58	240	2300	4.0	21397	S12 E64	237	(B)	5				
80	4	20	16789	S13 E47	238	3000	3.5	21397	S12 E50	238	(BY)	5	B	750	57	EKI
80	4	21	16789						S13 E36				B	920	53	EKI
80	4	22	16789						S12 E21				B	1040	19	EKI
80	4	23	16789						S12 E17				H	1130	30	EKI
80	4		16789						S13 E04				H	930	32	EKI
80	4	24	16789	S13 W08	240	1800	3.5	21397	S13 W05	240	(B)	5	P	940	36	EKI
80	4	25	16789	S13 W22	241	2900	3.0	21397	S13 W19	240	(BP)	5				
80	4	26	16789					21397	S13 W33	241	(BY)	5	B	600	20	EKI
80	4	27	16789	S13 W46	238	3000	3.0	21397	S13 W46	240	(BP)	5	B	780	45	FHI
80	4	28	16789						S12 W57				B	640	31	FKI
80	4	29	16789						S11 W71				B	690	7	FKI

HALE REGION 16790 CMP DATE 24.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	18	16790	S25 E80	229	100	2.0									
80	4	19	16790	S29 E72	226	300	3.0									
80	4	20	16790	S28 E76	209	800	3.0									
80	4	24	16790	S28 W07	239	800	3.0	21412	S31 W05	239	(B)	4	P	190	18	DAO
80	4	25	16790	S28 W21	240	900	3.5	21412	S31 W18	239	(B)	4	B	150	10	DSI
80	4	26	16790					21412	S30 W31	239	(B)	5	B	320	8	EKO
80	4	27	16790	S29 W45	237	1000	3.0	21412	S31 W43	237	(B)	5	B	320	22	ESI
80	4	28	16790						S29 W54				B	330	12	EHI
80	4	29	16790						S29 W67				B	340	8	ESI
80	4	30	16790						S31 W82				B	340	5	EHO

HALE REGION 16788 CMP DATE 24.9 RETURN OF REGION 16733 AND LEADING PART OF REGION 16737 ROTATIONS 2 AND 6

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	18	16788	N07 E68	241	400	2.5	21403	N10 E88	226	(X)	1				
80	4	19	16788	N11 E66	232	1500	3.5	21403	N10 E73	228	(AF)	2				
80	4	19	16788					21407	N14 E90		(X)	1				
80	4	20	16788	N11 E53	232	4000	3.5	21403	N10 E57	231	(BP)	3	6	20	5	CSO
80	4		16788					21410	N07 E45	243	AP	1				
80	4	20	16788					21407	N15 E66		(AF)	3				
80	4	20	16788					21409	N16 E51		(AP)	2				
80	4	21	16788						N09 E43				B	40	2	CSO
80	4	22	16788						N09 E27				B	20	1	HSX
80	4	23	16788						N10 E22				H	0	4	CRC
80	4	24	16788	N11 E01	231	3200	3.0	21403	N11 E02	232	B	1				
80	4	25	16788	N11 W14	233	4200	3.0									
80	4	27	16788	N11 W38	230	2100	2.5									

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HALE REGION 16792 CMP DATE 25.1

					CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	20	16792	N20 E58	227	300	3.5									
80	4	24	16792	N22 E04	228	100	2.0									
80	4	25	16792	N22 W08	227	100	2.5									
80	4	27	16792	N22 W44	236	100	2.0									

HALE REGION 16791 CMP DATE 25.7

					CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	19	16791	N04 E78	220	300	3.0	21406	N05 E80		(X)	1				
80	4	20	16791	N04 E68	217	1100	3.0	21406	N05 E66		(X)	1				
80	4	21	16791						N04 E52				P	10	1	AXX
80	4	24	16791	N04 E14	218	1000	3.0		N04 E14				P	10	2	BXO
80	4	25	16791	N04 W01	220	800	3.0									
80	4	27	16791	N04 W25	217	600	2.5									

HALE REGION 16794 CMP DATE 25.8 RETURN OF REGION 16736 ROTATION 3

					CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	24	16794	S28 E15	217	700	2.5									
80	4	25	16794	S29 E01	218	900	2.5									
80	4	27	16794	S29 W24	216	300	2.0									

HALE REGION 16793 CMP DATE 26.7 RETURN OF REGION 16732 ROTATION 2

					CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	20	16793	N23 E78	215	700	3.0									
80	4	24	16793	N23 E23	209	600	2.0		N22 E16				P	10	1	AXX
80	4	25	16793	N23 E13	206	800	2.5									
80	4	27	16793	N23 W13	205	700	2.0									

HALE REGION 16795 CMP DATE 26.9 RETURN OF NORTHERN PART OF REGION 16741 ROTATION 5

					CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	24	16795	S17 E26	204	600	2.0									
80	4	25	16795	S16 E15	204	300	2.0	21414	S15 E20		B	2				
80	4	27	16795	S16 W11	203	200	2.0									
80	4	29	16795						S15 W40				B	10	1	AXX
80	4		16795						S07 W29				B	20	1	BXO
80	4	30	16795						S23 W45				B	10	1	AXX
80	4		16795						S07 W41				B	10	3	BXO

HALE REGION 16804 CMP DATE 27.4

					CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	5	2	16804	S06 W70		100	2.5									

HALE REGION 16805 CMP DATE 27.4

					CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	5	2	16805	S21 W71		300	3.0	21420	S21 W65		(B)	4				
80	5	3	16805	S22 W80		200	3.0	21420	S24 W80		B	2				

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HALE REGION 16797 CMP DATE 28.4 RETURN OF SOUTHERN PART OF REGION 16741 ROTATION 5

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	24	16797	S26 E46	186	200	2.5									
80	4	25	16797	S26 E35	184	200	3.0									
80	4	27	16797	S25 E08	184	200	2.5									

HALE REGION 16796 CMP DATE 28.5 RETURN OF REGION 16742 ROTATION 6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	24	16796	S17 E48	184	800	3.0									
80	4	25	16796	S17 E35	184	700	3.0									
80	4	27	16796	S17 E10	182	400	2.0									

HALE REGION 16798 CMP DATE 30.0

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	24	16798	N25 E63	169	500	3.0									
80	4	25	16798	N26 E54	165	1000	3.5		N26 E52				B	10	2	BXO
80	4	27	16798	N27 E29	163	700	3.0									
80	4	30	16798						N29 W13				R	10	2	BXO
80	5	2	16798	N29 W38		600	3.0									
80	5	3	16798	N28 W52		400	2.5									
80	5	4	16798	N28 W66		200	2.5									

HALE REGION 16800 CMP DATE 30.1

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	24	16800	S09 E66	166	200	2.5	21413	S07 E74	160	(AF)	3	P	10	2	BXO
80	4	25	16800	S07 E57	162	300	2.5	21413	S07 E59	162	(AF)	3	B	0	1	AXX
80	4	26	16800					21413	S07 E46	162	(AF)	4	B	10	1	AXX
80	4	27	16800	S07 E30	162	200	2.5		S07 E32				B	0	1	AXX
80	5	2	16800	S10 W41		100	2.0									
80	5	3	16800	S10 W54		100	1.5									

HALE REGION 16799 CMP DATE 30.4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	4	24	16799	N06 E75	157	300	3.0									
80	4	25	16799	N07 E64	155	900	3.5									
80	4	26	16799					21417	N12 E50		(AF)	3				
80	4	27	16799	N08 E35	157	700	3.5	21417	N12 E36		(AF)	3				
80	4	28	16799						N12 E25				B	0	1	AXX
80	4		16799						N07 E29				B	20	5	BXO
80	5	2	16799	N13 W31		500	2.5									
80	5	3	16799	N12 W45		400	2.0									
80	5	4	16799	N11 W58		200	2.0	21429	N07 W58		(BF)	3	B	10	2	BXO
80	5	5	16799	N10 W74		300	2.0	21429	N07 W70		(B)	4	B	10	3	BXO

NOTE: REGION NUMBER 16764 WAS NOT USED.
NO CALCIUM SPECTROHELIOGRAMS WERE SECURED AT MT WILSON OBSERVATORY ON APRIL 2, 4, 5, 21-23, 26 AND 28-30, 1980.
NO SUNSPOT OBSERVATIONS WERE MADE AT MT WILSON ON APRIL 2, 5, 21-23 AND 28-30, 1980.

CONTIGUOUS PLAGES APRIL 1980: NONE

DAILY CALCIUM PLAGE INDEX

APRIL 1980

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
80	4	1	42.8	80	4	11	72.2	80	4	21	*
80	4	2	*	80	4	12	54.1	80	4	22	*
80	4	3	32.2	80	4	13	62.5	80	4	23	*
80	4	4	*	80	4	14	54.0	80	4	24	37.8
80	4	5	*	80	4	15	58.7	80	4	25	47.2
80	4	6	42.1	80	4	16	48.8	80	4	26	*
80	4	7	45.8	80	4	17	46.4	80	4	27	28.0
80	4	8	57.4	80	4	18	42.3	80	4	28	*
80	4	9	53.8	80	4	19	44.0	80	4	29	*
80	4	10	63.7	80	4	20	41.0	80	4	30	*

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1980

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	HALE REGION
01	1527	1605	1530	1-	3	0	0	0	0	0	2	0	*	
01	2017	2100	2020	1-	3	0	0	0	0	0	2	0	*	
01	2200	2227	2206	1-	5	0	0	0	1	0	2	0	*	
01	2247	2312	2251	1-	3	0	0	0	1	0	1	0	*	
02	0207	0314	0234	1-	1	0	0	0	1	0	0	0	*	
02	0416	0450	0422	1-	1	0	0	0	1	0	0	0	*	
02	0802	0830	0814	1-	5	0	0	1	1	1	0	0	*	
02	1122	1135	1127	1-	1	0	0	0	0	1	0	0	1115	16740
02	1336	1410	1343	1-	1	1	0	1	0	1	0	0	1335	16740
02	1700	1745	1707	1-	3	0	0	0	0	0	4	0	*	
02	1946	2035	2000	1+	5	1	0	0	1	0	4	0	*	
03	0116	0253	0129	2	1	1	0	0	1	0	0	0	*	
03	0634	0922	0720	2	1	0	0	1	1	1	0	0	0636E	16740
03	0657	0735	0708	1	5	2	0	1	0	1	0	0	0655E	16740
03	1355	1417	1358	1	1	0	0	1	0	0	0	0	*	
03	2040	2131	2050	1	5	0	0	0	1	0	3	0	2040	16737
04	0029	0056	0033	1-	1	0	0	0	1	0	0	0	0027	16752
04	0112	0157	0122	1-	1	0	0	0	1	0	0	0	0106	16752
04	1018	1050	1020	1	5	2	0	2	1	1	1	0	1015E	16740
04	1059	1130	1109	1	5	0	0	2	1	0	0	0	*	
04	1103	1135	1110	1	3	2	0	3	0	1	1	0	*	
04	1155	1240	1202	1	5	0	0	2	0	1	1	0	*	
04	1200	1228	1210	1	1	0	0	1	0	0	1	0	*	
04	1405	1500	1430	1	1	0	0	2	0	0	0	0	*	
04	1457	1540	1508	3	5	4	0	6	0	1	5	0	1458	16740
05	0230	0312	0238	1-	1	0	0	0	1	0	0	0	0235	16747
05	0345	0532	0402	2+	3	2	0	0	1	0	0	0	*	
05	0553	0730	0606	2	3	2	0	3	1	0	0	0	0602E	16747
05	1041	1105	1046	1	3	0	0	1	0	1	1	0	*	
05	1111	1132	1114	1	3	0	0	2	0	0	1	0	*	
05	1546	1635	1552	2+	5	4	0	5	0	1	5	0	1545	16747
05	1753E	1957D	1802	1	3	0	0	0	0	0	3	0	1756	16747
05	1957E	2004D	2004	1	3	0	0	0	0	0	3	0	1952	16761
05	2144	2244	2153	1-	5	0	0	0	1	0	2	0	2140	16753
06	0048E	0234	0100	1-	1	0	0	0	1	0	0	0	*	
06	0403	0634	0419	3	3	2	0	0	1	0	0	0	*	
06	0731	0818	0748	1-	1	0	0	0	1	0	0	0	*	
06	1224	1310	1231	1	5	2	0	5	0	1	3	0	1237	16761
06	1341	1624	1550	1	1	0	0	1	0	0	0	0	*	
06	1420	1500	1425	2+	5	6	0	6	0	1	4	0	*	
06	1540	1620	1547	2	5	3	0	5	0	1	3	0	1536	16751
06	1625	1710	1630	2-	5	3	0	6	0	1	4	0	1621	16747
06	2102	2300	2115	2	5	0	0	0	1	0	3	0	2055	16747
06	2308	2355	2316	1-	1	0	0	0	1	0	0	0	*	
07	0037	0238	0112	2+	3	2	0	1	1	0	0	0	*	
07	0320	0343	0324	1	1	0	0	0	1	0	0	0	0312	16757
07	0347E	0427D	0410	1-	1	0	0	0	1	0	0	0	*	
07	0455	0508	0500U	1	3	1	0	0	1	0	0	0	*	
07	0530	0640	0548	2+	5	3	0	2	1	1	1	0	0547E	16747
07	0533	0622	0544	2	3	1	0	4	0	0	0	0	0545E	16747
07	1345	1400	1352	1-	1	1	0	1	0	1	0	0	1347	16752
07	1602	1620	1610	1+	5	2	0	6	0	1	2	0	*	
07	1653E	1730	1658	1-	3	0	0	0	0	0	2	0	*	
07	1843	1923	1852	1	5	1	0	0	1	0	2	0	1845	16747
07	2247E	2322	2257	1-	5	0	0	0	1	0	2	0	*	
08	0118	0140	0120D	1-	1	1	0	0	1	0	0	0	*	
08	0151E	0300D	0200	1-	1	0	0	0	1	0	0	0	0215E	16761
08	0255E	0449	0312	3	3	2	0	0	1	0	0	0	*	
08	0458	0607	0509	1+	1	0	0	0	1	0	0	0	*	
08	0650	0705	0655	1-	5	0	0	0	1	0	0	0	*	
08	0729	0745	0734	1-	5	1	0	1	1	1	0	0	0740E	16742
08	1049	1120	1105	1-	5	0	0	0	1	1	0	0	*	
08	1433	1441	1435	1-	1	1	0	1	0	1	0	0	*	
08	1957	2045	2001	1-	3	0	0	0	0	0	3	0	*	
08	2054	2143	2108	1-	5	0	0	0	1	0	3	0	2053	16747
08	2155	2231D	2207	1-	1	0	0	0	1	0	0	0	2155	16752
08	2231E	2307	2241	1-	1	0	0	0	1	0	0	0	2237	16757
08	2356	0038	0008	1-	1	0	0	0	1	0	0	0	*	
09	0045	0102	0048	1	3	1	0	0	1	0	0	0	*	
09	0153	0300	0215	1	3	1	0	0	1	0	0	0	*	
09	0514	0627	0518	2-	1	1	0	0	1	0	0	0	*	
09	0808	0814D	0814	1-	5	1	0	1	1	1	0	0	0755	16768
09	0830	0847	0833	1-	1	1	0	0	0	1	0	0	*	
09	1508	1629	1547U	1	1	0	0	1	0	0	0	0	*	
09	1758	1835	1802	1-	3	0	0	0	0	0	2	0	*	
09	2221	0006	2240	1-	5	1	0	0	1	0	2	0	*	
10	0239	0349	0255	1-	1	0	0	0	1	0	0	0	*	
10	0436	0512	0446	1-	1	0	0	0	1	0	0	0	*	
10	0628	0640	0639	1	1	0	0	1	0	0	0	0	*	
10	0757	0809D	0809	1	5	2	0	4	1	1	0	0	0756	16763
10	0834	0858	0844	1-	5	0	0	1	1	1	1	0	*	
10	0918	1025	0926	2+	5	3	0	6	1	1	1	0	0930E	16747
10	1254	1310	1300	1	3	2	0	4	0	1	1	0	*	
10	1724	1750	1730	2	5	2	0	4	0	1	3	0	1722	16747
10	1946	2015	1953	1-	1	0	0	0	0	0	1	0	*	
10	2156	2242	2208	1-	5	0	0	0	1	0	2	0	2218E	16763

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1980

	UNIVERSAL TIME				WIDE SPREAD	NUMBER OF STATION REPORTS BY TIME								
DAY	START	END	MAX	IMP	INDEX	SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	HALE REGION
11	0413	0500	0425	1-	1	0	0	0	1	0	0	0	*	
11	0630	0715	0645	1+	5	1	0	3	1	1	1	0	*	
11	0726	0751	0735	1	5	1	0	3	1	1	1	0	*	
11	0813	0850	0830	1	5	0	0	1	1	1	0	0	*	
11	0905	0955	0914	1+	5	2	0	5	1	1	1	0	*	
11	1246	1342	1301	1	1	0	0	2	0	0	0	0	1248	16752
11	1307	1327	1315	1	3	2	0	2	0	1	1	0	*	
11	1350	1410	1357	1	5	2	0	5	0	1	4	0	1356	16761
11	1509	1520	1513	1-	1	0	0	1	0	1	0	0	1506	16747
11	1745	1900	1754	1	3	0	0	0	0	0	2	0	1746E	16763
11	1935	2030	1943	1	3	0	0	0	0	0	2	0	*	
11	2254	0023	2319	1-	5	0	0	0	1	0	2	0	2309	16763
12	0054	0150	0100	1-	1	0	0	0	1	0	0	0	*	
12	0205	0300	0225	1-	1	0	0	0	1	0	0	0	*	
12	0543	0628D	0603	1-	1	0	0	0	1	0	0	0	0610E	16762
12	0630	0700	0641	2	5	2	0	2	1	1	1	0	0640	16752
12	0903	1010	0928	1	5	3	0	4	1	1	1	0	0920	16763
12	1403	1425	1409	1	5	2	0	2	0	1	4	0	*	
12	1432	1450	1438	1-	1	0	0	1	0	1	0	0	*	
12	2009	2039D	2020	1-	1	0	0	0	1	0	0	0	2001	16752
12	2039E	2155	2055	1+	5	0	0	0	1	0	4	0	2039	16747
12	2225	2251D	2231	1	5	0	0	0	1	0	2	0	2228	16752
12	2251E	0011	2309	1-	1	0	0	0	1	0	0	0	2301	16763
13	0403	0610	0414	2	3	2	0	0	1	0	0	0	*	
13	0836	0846D	0846	1+	5	2	0	5	1	1	1	0	0834	16752
13	0905	0920	0909	1-	1	0	0	0	0	1	0	0	0900	16752
13	1006	1015	1009	1-	1	0	0	0	0	1	0	0	1003	16763
13	1114	1130	1118	1	3	1	0	3	0	1	1	0	1113	16773
13	1230	1245	1237	1	3	0	0	3	0	1	1	0	1228	16768
13	1424	1448	1435	1	1	0	0	1	0	1	0	0	1419	16773
13	1543	1645	1552	1	1	0	0	1	0	0	0	0	1545	16747
13	1732	1810	1735	1-	3	0	0	0	0	0	2	0	1728	16773
13	1853	1925	1858	1-	3	0	0	0	0	0	3	0	1851	16768
13	1955	2045	2002	1-	3	0	0	0	0	0	3	0	1955	16773
13	2130	2216	2137	1-	5	0	0	0	1	0	3	0	2127	16763
13	2313	2322D	2322	1-	1	0	0	0	1	0	0	0	*	
14	0217	0238D	0220	1-	1	0	0	0	1	0	0	0	*	
14	0238E	0310	0248	1-	1	0	0	0	1	0	0	0	*	
14	0406	0523	0421	1-	1	0	0	0	1	0	0	0	*	
14	0914	1000	0926	1	1	1	0	1	0	1	0	0	0920E	16771
14	1113	1140	1125	1	1	1	0	1	0	1	0	0	*	
14	2006	2030D	2014	1-	5	0	0	0	1	0	3	0	2004	16771
14	2030E	2123	2046	1-	5	0	0	0	1	0	3	0	2037	16771
14	2137	2250	2143	1	5	0	0	0	1	0	4	0	2137	16763
15	0204	0305	0211	2	1	1	0	0	1	0	0	0	*	
15	0319E	0400	0323	1-	1	0	0	0	1	0	0	0	*	
15	0441	0512	0450	1-	1	0	0	0	1	0	0	0	*	
15	0550	0630	0553	1+	5	3	0	2	1	1	1	0	*	
15	1509	1540	1511	2	5	4	0	6	0	1	4	0	1509	16773
16	0058	0252	0110	1	1	1	0	0	1	0	0	0	0058E	16773
16	0539	0606	0543	1-	1	0	0	0	1	0	0	0	0541E	16773
16	0636	0739	0651	1-	5	0	0	0	1	0	1	0	0645	16773
16	0909	0950	0914	1	5	0	0	1	1	1	0	0	0909	16773
17	0249	0323	0301	1-	1	0	0	0	1	0	0	0	*	
17	0351	0423	0359	1-	1	0	0	0	1	0	0	0	*	
17	0436	0633	0450	1	1	0	0	0	1	0	0	0	*	
17	2002	2030	2010	1-	3	0	0	0	1	0	3	0	*	
17	2213	2314	2232	1-	1	0	0	0	1	0	0	0	*	
17	2317	2350	2327	1-	1	0	0	0	1	0	0	0	*	
18	0435	0516	0446	1-	1	0	0	0	1	0	0	0		
18	0625	0650	0630	1	5	0	0	0	1	0	0	0	0624E	16773
18	0809	0840	0812	1-	5	0	0	0	1	1	0	0	0812	16788
18	1330	1358	1338	1-	1	0	0	2	0	0	0	0	*	
18	1500	1525	1506	1-	5	0	0	0	0	1	3	0	*	
18	2003	2105	2010	1	5	0	0	0	1	0	3	0	2000	16788
19	0238	0330	0258	1-	1	0	0	0	1	0	0	0	*	
19	0346	0409	0348	1-	1	0	0	0	1	0	0	0	*	
20	0249	0308	0254	1-	1	0	0	0	1	0	0	0	*	
20	0640	0700	0642	2	5	1	0	0	1	1	0	0	*	
20	2137	2235	2148	1-	5	0	0	0	1	0	3	0	*	
21	0243	0308	0247	1-	1	0	0	0	1	0	0	0	*	
21	0359	0513	0414	1-	1	0	0	0	1	0	0	0	*	
21	0542	0610	0545	1-	5	0	0	0	1	1	0	0	*	
21	0600E	0640	0614	1-	1	0	0	0	1	0	0	0	0600E	16788
21	1910	2015	1915	1-	3	0	0	0	0	0	4	0	*	
22	0116	0156D	0125	1-	1	0	0	0	1	0	0	0	*	
22	0323	0400	0338	1-	1	0	0	0	1	0	0	0	*	
22	0518	0650	0530	1+	5	0	0	0	1	0	0	0	*	
22	1319	1347	1328U	1-	1	0	0	3	0	0	0	0	*	
23	1145	1326	1152	1-	1	0	0	2	0	0	0	0	*	
24	1218	1301	1225	1-	1	0	0	2	0	0	0	0	1201	16783
25	1103	1130	1110	1-	1	0	0	1	0	1	0	0	*	
25	1532	1610	1541	1-	3	0	0	0	0	0	3	0	1532	16802
25	2041	2140	2047	1-	5	0	0	0	1	0	2	0	*	

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1980

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
26	0011	0052	0030	1-	1	0	0	0	1	0	0	0	*	
26	0057	0112D	0112	1-	1	0	0	0	1	0	0	0	*	
26	0330	0516	0335	2	3	1	0	1	1	0	0	0	*	
26	0602	0620	0608	1	5	1	0	2	1	1	0	0	0610	16783
26	0655	0710	0704	1-	5	0	0	0	1	0	0	0	*	
26	0720	0755	0726	1-	5	1	0	2	1	1	0	0	0720	16802
26	0836E	0930	0843	1-	5	1	0	4	1	1	0	0	*	
26	0942	1020	0951	1	5	1	0	4	1	1	0	0	0943E	16802
26	1145	1220	1152	1	5	1	0	1	0	1	1	0	1147E	16783
26	1248	1252D	1252	1-	5	0	0	4	0	1	3	0	1250E	16802
26	1305	1318	1309	1-	1	1	0	0	0	1	0	0	*	
26	1510	1535	1520	1	5	0	0	3	0	1	2	0	1510	NO DATA
26	1739	1800	1742	1-	3	0	0	0	0	0	3	0	*	
26	2031	2137D	2037	1	5	0	0	0	1	0	4	0	2031	16802
26	2300	2339	2312	1-	1	0	0	0	1	0	0	0	2315E	16801
27	0110	0127	0114	1-	1	0	0	0	1	0	0	0	0059	16783
27	0156	0226	0204	1-	1	0	0	0	1	0	0	0	*	
27	0229	0252D	0233	1-	1	1	0	0	1	0	0	0	*	
27	0251E	0353	0304	1-	1	0	0	0	1	0	0	0	*	
27	0516	0603	0521	1-	1	0	0	0	1	0	0	0	*	
27	1125	1135	1129	1-	1	1	0	0	0	1	0	0	*	
27	1540	1555	1545	1-	1	0	0	1	0	1	0	0	*	
27	1930	2012	1932	1-	5	0	0	0	1	0	3	0	1928	16789
27	2053	2138	2100	1-	5	0	0	0	1	0	3	0	*	
28	0041	0106	0046	1-	1	0	0	0	1	0	0	0	*	
28	0343	0418	0347	1-	1	0	0	0	1	0	0	0	*	
28	0848	0904	0852	1-	1	0	0	2	0	1	0	0	*	
28	1204	1230	1211	1	3	2	0	3	0	1	1	0	1157	16803
28	1236	1330	1247	2	5	3	0	5	0	1	1	0	*	
28	1537	1615	1542	1-	1	0	0	0	0	0	2	0	1539	16803
28	1705	1713D	1713	1	5	1	0	1	0	1	2	0	*	
28	1727	1750	1737	1-	1	1	0	1	0	1	0	0	*	
28	1925	2015	1930	1-	1	0	0	0	0	0	2	0	*	
28	2040	2116D	2046	1-	5	0	0	0	1	0	2	0	*	
28	2116E	2234	2122	1-	5	0	0	0	1	0	2	0	*	
28	2302	0012	2320	1-	5	0	0	0	1	0	1	0	*	
29	0303	0346	0307	1-	1	0	0	0	1	0	0	0	*	
29	0353	0525	0411	1-	1	0	0	0	1	0	0	0	0352E	16803
29	0537	0704	0601	1-	1	0	0	0	1	0	0	0	*	
29	0843	0930	0903	1	5	1	0	1	1	1	0	0	*	
29	0930	1006	0956U	1	1	0	0	2	0	0	0	0	*	
29	1025	1040	1032	1	1	1	0	1	0	1	0	0	*	
29	1049	1105	1056	1-	1	0	0	1	0	1	0	0	*	
29	1228	1303	1252	2	1	3	0	1	0	1	1	0	*	
29	1419	1450	1426	1-	5	1	0	1	0	1	2	0	1428	16803
29	1457	1510	1502	1-	5	0	0	1	0	1	2	0	1507	16802
29	1611	1620	1615	1-	5	0	0	1	0	1	2	0	*	
29	1719	1728	1723	1-	5	0	0	1	0	1	2	0	*	
29	1816E	1845	1821	1-	3	0	0	0	0	0	2	0	*	
29	2018	2108	2024	1-	3	0	0	0	1	0	3	0	*	
30	0019	0133	0035	1-	1	0	0	0	1	0	0	0	*	
30	0149	0319	0201	1-	1	0	0	0	1	0	0	0	*	
30	0342	0553	0413	1-	1	0	0	0	1	0	0	0	*	
30	0545	0600	0551	1	5	1	0	1	1	1	0	0	*	
30	0837	0850	0842	1-	1	0	0	1	0	1	0	0	*	
30	0901	0912D	0912	1-	5	1	0	2	1	1	0	0	*	
30	0924	0934	0929	1-	1	0	0	1	0	1	0	0	*	
30	0946	1025	1001	1	5	1	0	1	1	1	0	0	*	
30	1104	1232	1132	2	5	3	0	3	1	1	1	0	*	
30	1255	1310	1302	1	1	0	0	1	0	1	0	0	*	
30	1342	1415	1356	1	5	1	0	3	0	1	3	0	*	
30	1547	1554D	1554	1	5	1	0	1	0	1	5	0	1537	16802
30	1608	1630	1617	1	3	0	0	3	0	1	0	0	*	
30	2022	2130	2033	1	5	0	0	0	1	0	4	0	2030E	16783

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) AND STATION
01	0530-0710 GN

STATIONS REPORTING FOR APRIL 1980:

Ellensburg, Washington, USA	SES	Lüchow, GFR	SWF
Glenorchy, Tasmania, Australia	SWF	Panská Ves, Czechoslovakia	SEA, SES, SWF
Hiraiso, Japan	SWF	Preston, UK	SEA
Hobart, Tasmania, Australia	SEA	St. Cloud, Minnesota, USA	SES
Huancayo, Peru	SWF	Somerton, UK	SWF
Inubo, Japan	SPA	Trenton, New Jersey, USA	SES
Juliusruh, GDR	SWF	Úpice, Czechoslovakia	SEA
Kühlungsborn, GDR	SEA, LF-SPA	Vsetin, Czechoslovakia	SEA
Littleton, Colorado, USA	SES	Zilina, Czechoslovakia	SEA

SIDs BY HALE REGION

APRIL 1980

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
REGION																														
16737			1																											
16740		2	2	2																										
16742								1																						
16747					4	2	3	1		2	1	1	1																	
16751						1																								
16752				2			1	1			1	3	2																	
16753					1																									
16757							1	1																						
16761					1	1		1			1																			
16762										1		1																		
16763										2	2	2	2	1																
16768									1		1		2																	
16771														3																
16773													4		1	4		2												
16783																	1				1			1	1	2	1			1
16788																		2			1									
16789																											1			
16801																										1				
16802																									1	4			1	1
16803																												3	2	
NO REGION DATA																										1				
NO FLARE PATROL	4	5	2	5	3	5	6	8	7	6	7	4	2	4	4		6	2	2	3	4	4	1		2	7	7	10	11	12
EVENT TOTALS	4	7	5	9	9	9	11	13	8	11	13	11	13	8	5	4	7	6	2	3	6	4	1	1	4	15	9	13	14	14

PIONEER XII

MAGNETIC FIELD MAGNITUDES

APRIL 1980

DATE	TIME	BMAG
04/01/80	20:50:50	19.74
04/02/80	20:25:39	9.71
04/03/80	23:16:22	7.37
04/04/80	20:26:45	6.85
04/05/80	20:29:47	10.12
04/06/80	20:30:08	7.74
04/07/80	20:33:24	5.64
04/08/80		----
04/09/80	20:31:21	7.70
04/10/80	20:32:59	8.10
04/11/80	20:32:19	7.26
04/12/80	20:33:43	7.52
04/13/80	20:32:18	7.17
04/14/80	20:31:14	12.42
04/15/80	20:56:23	9.85
04/16/80	20:28:55	12.47
04/17/80	20:30:54	6.70
04/18/80	20:29:34	10.56
04/19/80	20:44:20	8.22
04/20/80	20:26:52	6.13
04/21/80	20:23:06	10.89
04/22/80	20:25:04	9.62
04/23/80	20:20:15	9.28
04/24/80	20:20:53	9.38
04/25/80	20:16:21	9.53
04/26/80	20:15:07	14.25
04/27/80	20:08:48	10.17
04/28/80	20:09:47	9.43
04/29/80	20:04:36	8.57
04/30/80		----

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1980

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0736	CULG	0110	0201								IS,W
			CULG	0201	0736		0145	0736					IN,W
			CULG	0300.5	0301.5	1	0300.5	0302	1				IIIG,V
			LEAR				0300.6	0301.9	1				CONT
			CULG				0303	0304.5	1				IIIG
			LEAR				0330.5	0330.9	1				CONT
	0536	1715	WEIS				0545.5	0548.6	2				IIIG
			CULG				0546.5		1				IIIB
	0550	0912	BLEN				0550 E	0912 D	2				I,DC
			WEIS				0601.0	1037	1				IN
			WEIS				0617.7	0617.9	2				IIIG
			CULG				0621		1				IIIB
			LEAR				0706.7	0707.8	1				III
			CULG				0707.5	0708	1				IIIB,U
			WEIS				0707.6	0707.9	2				IIIG
			WEIS				0720.7	0721.1	2				IIIG
			CULG				0732.5						IIIB,W
			LEAR				0732.6	0732.8	1				III
			WEIS				0732.7	0732.8	1				IIIB
			WEIS				0734.9	0735.2	1				IIIG
			WEIS				0816.4	0816.6	1				IIIB
			WEIS				0819.1	0819.3	1				IIIB
			BLEN				0826.2	0827.2	2				IIIG
			WEIS				0826.3	0827.4	2				IIIG
			LEAR				0826.4	0826.7	1				CONT
			WEIS				1010.9	1011.2	2				IIIB
			WEIS				1040.7	1040.8	2				IIIB
			WEIS				1318.3	1322.8	2				IIIG
	1319	2400	HARV				1321	2400	1				IN,W
			WEIS				1325.8	1326.1	1				IIIB
			HARV				1329	2330	1				IIIN
	1048	1655	BLEN	1329.2	1329.3	1	1329.2	1329.3	1				III,B,RS
			HARV	1524	1528	2	1524	1528	2				IIIGG
			BLEN	1524.2	1528.4	3	1524.2	1528.4	3				IIIGG
			WEIS				1524.4	1527.8	2				IIIGG,RS
	0820	1700	DWIN	1525.6		2							IIIB
			HARV				1540	1548	2				IIIGG
			WEIS				1540.7	1541.9	1				IIIG
			BLEN				1540.7	1548.0	2				IIIG
			WEIS				1546.6	1548.2	2				IIIG
			WEIS				1608.8	1609.2	1				IIIG
			WEIS				1618.0	1618.8	1				IIIG
			WEIS				1633.8	1634.1	2				IIIB
			WEIS				1635.8	1636.3	1				IIIG
			WEIS				1641.9	1642.2	2				IIIG
			HARV				1749	1750	2				IIIG
			HARV				1829	1830	2	1829	1830	2	IIIG,U
			PALE				1829.5	1829.9	2				V
			HARV				1900	1901	2	1901		2	IIIG,U
			PALE				1900.7	1902.1	1				V
			HARV				2047	2051	2				IIIGG
	2036	2400	CULG	2047	2051	1	2047	2050	1				IIIG
			CULG				2127						IIIB,W
			CULG	2146.5	2211	1							IIIS
			CULG				2148.5	2150					IIIG,W
			CULG				2222.5		1				IIIB
			CULG				2225.5	2226	1				IIIG
			HARV				2226		2				IIIG
			HARV				2337	2339	2				IIIG
			CULG	2337	2338	2	2337	2338.5	1				IIIG
			LEAR				2337.5	2339.4	1				CONT
			PALE				2337.8	2339.4	1				V
			CULG	2352	2353.5								I,W
02	0000	0736	CULG				0008	0738					IN,W
			CULG				0029.5		1				UNCLF
			LEAR				0029.7	0033.7	1				CONT
			CULG	0031.5	0032.5	1	0031	0032.5	2	0032	0032.5	1	IIIG
			CULG	0049	0122	2							IIIG,N
			CULG	0102.5	0104.5	1	0102.5	0104.5	2	0103	0104	1	IIIGG,U

SOLAR RADIO EMISSION
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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
02			LEAR				0102.8	0104.5	1				CONT
			PALE				0102.9	0104.3	2				V
			CULG	0108	0736								IN,W
			CULG				0129	0129.5					IIIG,W
			LEAR				0129.4	0129.5	1				III
			LEAR				0242.8	0251.3	1				CONT
			CULG				0243	0251		0244	0245.5		IIIN,W
			CULG	0247	0257	1							IIIG,N
			CULG	0410	0421	1							IIIG,N
			CULG	0444	0529	1	0444	0529	1				IIIG,N
	0534	1016	WEIS				0551.2	0551.6	1				IIIG
			WEIS				0604.4	0604.5	1				IIIB
			WEIS				0649.6	0649.7	1				IIIB
	0550	1705	BLEN	0726.1	0726.3	1	0726.1	0737.1	2				IIIGG
			WEIS				0726.4	0726.5	2				IIIB
			CULG				0726.5		1				IIIB
			WEIS				0902.3	0904.0	2				IIIG
			BLEN	0902.3	0904.8	2	0902.3	0904.8	3				IIIGG,RS,U
			WEIS				1007.1	1007.5	1				IIIG
	0650	1705	DWIN	1121.4	1121.6	2							IIIG
			BLEN	1121.4	1121.6	2							DCIM
			BLEN				1153.8	1217.9	3				IIIGG,U
			BLEN	1214.4	1214.6	1							DCIM
	1319	2345	HARV				1319	2345	2				I
			BLEN				1400	1705 D	2				I,DC
			BLEN	1405.3	1406.4	2							DCIM
			DWIN	1409.1	1409.6	1							IIIG
			HARV				1411	2212	2				IIIN
	1026	1709	WEIS				1457.7	1457.9	1				IIIB
			WEIS				1659.7	1700.9	2				IIIG
			BLEN	1659.8	1703.0	2	1659.8	1703.0	3				IIIGG
			HARV				1700		3				IIIG
			HARV				1721		2				IIIG
			HARV				1822	1825	2				IIIG
			HARV				2022	2026	3	2023	2026	2	IIIGG,V
			SGMR				2022.3	2023.4	2				V
			PALE				2022.5	2025.8	2				CONT
	2035	2400	CULG				2035	2400					IS,DC,W
			HARV				2111	2136	2				DC
			CULG				2211	2330					IIIN,W
03	0000	0735	CULG				0000	0120					IS,W
			CULG				0009	0735					IIIN,W
			LEAR				0009.7	0010.1	1				CONT
			LEAR				0026.6	0036.0	1				CONT
			LEAR				0055.7	0105.8	1				II
			LEAR				0117.0	1004.0	1				B
			CULG							0120	0135	1	SWF
			CULG				0120	0224	1				IS,DC
			CULG	0122	0735								IN,W
			CULG				0224	0449					IS,DC,W
			CULG				0446	0447	2				IIIG
			CULG				0449	0735	1				IS,DC
	0545	1711	WEIS				0545	1625	2				IN
			WEIS				0621	1549	2				IIIN
			CULG				0625	0626	2				IIIG
			CULG	0628	0641	1							IIIS
	0550	1705	BLEN	0629.0	0640.6	2							DCIM
			WEIS				0634.0	0639.0	2				IS
			CULG	0637	0735	2	0701	0735	2				IV P
			BLEN	0653	0730	3	0647	0825	3				IV,P
	0650	1515	DWIN	0701	0722	2							IV P
			CULG				0705.5	0707	1				IIIG
			CULG				0706	0729	3				II
			WEIS				0706.0	1330	1				CONT
			LEAR				0715.9	0729.5	1				II
			WEIS				0716.0	0722.0	2				II
			LEAR				0730.0	1004.0	1				IV
			BLEN				0908.7	0912.4	1				IIIG
			BLEN				1048	1705 D	2				I,DC

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
03			BLEN	1131.2	1134.8	2	1131.2	1134.8	2				IIIGG
	1319	2340	HARV				1319	2340	2				I
			HARV				1559	2052	2				IIIN
			SGMR				1629.1	1628.4	2				CONT
			WEIS				1630.7	1633.5	3				IIIGG,U
			BLEN	1630.7	1635.8	1	1630.7	1635.8	2				IIIGG,B
			HARV				1631	1633	2	1632	1633	2	IIIGG,U
			SGMR				1631.1	1632.4	2				CONT
			PALE				1915.2	0435.0	1				B
	2035	2400	CULG				2035	2400	1				IS,C,DC
			CULG				2043	2051					IIIS,W
			CULG				2246.5	2247.5	1				IIIG
			HARV				2247		2				IIIG
			LEAR				2248.0	1004.0	1				B
			CULG	2251	2251.5								IIIG,W
			HARV				2252	2253	2				IIIG
			CULG				2252	2253	2				IIIG
			CULG	2253	2329								IN,W
			CULG	2348.5	2349								IIIG,W
04	0000	0546	CULG				0000	0057	1				IS,C,DC
			CULG	0008.5	0009	1							IIIG
			CULG				0026.5	0028.5	3				IIIGG
			CULG				0029	0134	2	0030	0134	1	IIIN
			CULG	0038	0106								IS,W
			CULG				0039	0546					IIIN,W
			CULG				0057	0115	1				IS
			CULG				0115	0546					IS,W
			CULG	0248	0546								IN,W
			CULG				0311	0316	1	0311	0318	1	IIIS
			CULG	0526.5		1	0526.5		1				IIIB,U
	0600	0735	CULG	0600	0735								IN,W
			CULG				0600	0735					IS,W
			CULG				0613.5	0615.5	2				IIIGG
	0540	0642	WEIS				0613.6	0616.3	2				IIIGG
	0550	1305	BLEN				0613.6	0620.4	2				IIIG,U
			WEIS				0619.9	0620.4	2				IIIG
			CULG				0620	0735					IIIN,W
			WEIS				0638.3	0638.5	2				IIIG
			CULG				0647.5	0649	3				IIIG
			LEAR				0647.9	0649.1	2				V
			BLEN				0700						I,DC
			CULG	0707	0707.5	2	0706	0708	3				IIIGG,V
			CULG	0710	0710.5	2	0709.5	0710	2				IIIG
	0650	1345	DWIN	0710.0	0710.5	2							IIIG
			BLEN	0710.0	0710.4	1	0706.0	0710.4	3				IIIGG,V,DC
			BLEN	0858.5	0859.0	1							DCIM
	0832	1730	WEIS				0924.9	0926.3	1				IIIG
			WEIS				0928.9	0929.3	1				IIIB
			WEIS				0934.5	0936.2	2				IIIGG
			BLEN	0935.2	0935.8	1							DCIM
			WEIS				1012.3	1012.9	1				IIIG
			WEIS				1035.7	1036.1	1				IIIG
			BLEN	1102.3	1102.7	1	1102.3	1102.7	1				IIIG
			BLEN	1139.5	1140.1	2	1139.7	1140.1	2				IIIG,U
			DWIN	1139.7	1139.9	2							IIIG
			WEIS				1143.3	1143.4	2				IIIG
			BLEN	1239.2	1251.4	2	1239.2	1251.4	2				IIIGG,U
			WEIS				1239.3	1239.8	2				IIIG
			WEIS				1242.2	1242.7	2				IIIG
			WEIS				1250.9	1251.3	2				IIIG
			WEIS				1252.8	1253.1					IIIU
			WEIS				1257.4	1258.4	2				IIIG
			WEIS				1313.3	1314.6	2				IIIG
	1320	2345	HARV				1320	2345	2				I
			WEIS				1332.2	1333.4	2				IIIG
			HARV				1334	2345	2				IIIN
			HARV				1342	1344	2				IIIG
			WEIS				1342.0	1344.4	2				IIIGG
			WEIS				1346.3	1346.6	2				IIIG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
04			WEIS				1414.9	1417.4	2				IIIG
			WEIS				1420.6	1420.7	2				IIIB
			HARV	1502	1544	2	1502	1605				IV	
			WEIS				1502.2	1627.0	3			IV	
			HARV				1503	1528	3	1506	1528	3	II
			HARV				1537	1539	2	1537	1539	2	IIIGG
			WEIS				1637.2	1639.3	2				IIIG
			HARV				1714	1716	2				IIIG
			HARV				1720	1723	2	1720	1722	2	IIIG
			HARV				2010	2011	2				IIIG
	2035	2400	CULG				2035	2154					IIIN,W
			CULG				2035	2400					IS,W
			CULG	2151	2400	1							IIIN
			HARV				2153		2				IIIG
			CULG	2153		2							IIIB,RS
			CULG				2154	2212	1				IIIS
			CULG	2157	2400								IS,W
			CULG				2212	2238					IIIN,W
			HARV				2238	2248	2				IIIGG
			CULG				2238	2250	2				IIIS
			CULG				2250	2400					IIIN,W
			HARV				2304	2305	2				IIIG
			HARV				2328	2334	2				IIIG
			CULG				2328	2330	2				IIIGG
			LEAR				2329.0	2330.4	1				CONT
			CULG	2333		1	2333		2				IIIB
05	0000	0735	CULG	0000	0735		0000	0624					IS,W
			CULG				0000	0735					IIIS,W
			CULG	0009	0010	3							IIIG
			CULG				0023	0023.5	1				IIIG
			CULG				0041			0041			IIIB,W
			CULG	0047	0601								IIIN,W
			CULG				0154	0735	1				IIIN
			CULG	0425	0425.5	1							IIIG,RS
			CULG	0449	0449.5	2							DCIM
			CULG	0450	0450.5	1	0450	0450.5	1				IIIG
			CULG	0554.5	0555	1							IIIG,RS
			CULG	0622	0622.5	1							IIIG
			CULG				0624	0735	1				IS
	0537	1654	WEIS				0630.0	1715.0	2				IIIN,DP
			LEAR				0644.4	0645.6	2				CONT
			WEIS				0840.7	0840.9	3				IIIB
			WEIS				0850.9	0851.8	2				IIIG
			WEIS				0944.4	0945.1	3				IIIG
			WEIS				1009.0	1010.3	2				IIIG
			WEIS				1024.2	1025.3	3				IIIG
	1038	1720	BLEN				1038 E	1720 D	2				I,NS
			WEIS				1041.3	1042.9	3				IIIG
	1319	2340	HARV				1319	2340	2				IC
			HARV				1320	2340	2				IIIN
			HARV				1355		2				IIIB
			HARV				1424		2				IIIG
			BLEN	1452.7	1452.9	2							DCIM
			HARV				1526	1527	2				IIIG
			BLEN	1536.4	1536.7	1							DCIM
	1250	1730	DWIN	1542	1605	2						IV	Z,DCIM
			HARV	1542	1602	3	1542	1600	2	1542	1557	1	IV
			HARV				1542	1557	2				IIIG
			BLEN	1542.3	1720	3	1542.3	1720	3			IV	
			WEIS				1545	1659	3			IV	
			WEIS				1554	1606	2			II	
			HARV				1554	1605	2			II	
			HARV				1633		1				IIIG
			WEIS				1642.5	1654.0	3				IIIGG
	1709	1715	WEIS										
			HARV				1709	1713	2	1709	1713	1	IIIG
			PALE				1720.0	0437.0	1				B
			HARV				1732		2				IIIB
			HARV				1744		2				IIIG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
05			HARV				1747	1759	2				IIIGG
			HARV				1840	1841	2				IIIGG
			HARV				1850	1851	3				IIIG
			HARV				1901	1903	2				IIIG
			CULG				2035	2400	2				IS,C,DC
			CULG				2035	2400	1				IIIS
	2035	2400	CULG	2035	2400	1							IS,W
			CULG				2050.5	2051	2				IIIG
			HARV				2153		3				IIIG
			HARV				2253	2257	3				IIIGG,V
			LEAR				2253.4	2256.7	1				CONT
			CULG				2253.5	2254	2				IIIG
			CULG				2254.5	2257	2	2256	2257	1	IIIGG,V
06			CULG				0000	0254	2				IS,DC
			CULG	0000	0734								IS,W
	0000	0734	CULG				0000	0108					IIIS,W
			CULG				0015	0016.5	2				IIIG
			CULG				0046		1				IIIB
			CULG				0108	0138	1				IIIS
			CULG				0138	0345					IIIN,W
			CULG	0206	0206.5	2							DCIM
			CULG	0239	0240	1							DCIM
			CULG				0249.5		1				IIIB
			CULG				0254	0407					IS,W
			CULG				0316	0322.5	2				DC
			CULG				0345	0510					IIIS,W
			CULG				0407	0734	2				IS
			CULG	0408	0615	3							IV
			CULG				0408.5	0434	2				II
			CULG				0409.5		2				IIIB
			CULG							0410	0430	2	SWF
			CULG				0413	0734	3				IV
			CULG				0510	0734	1				IIIS
	0536	1714	WEIS				0537	0730					CONT
			WEIS				0545	1423	2				IN
	0545	1722	BLEN	0545 E		3	0545 E		3				C
			CULG	0615	0734	1							IV
			BLEN				0630		2				I,DC
			CULG				0635	0734	1				N,RS,DP
	0645	1345	DWIN										
			WEIS				0713	1422	2				IIIS,DP
			BLEN				0713.4	0718.8	2				IIIGG
			CULG	0713.5	0714	1	0713.5	0714.5	2				IIIG
			BLEN	0732.5	0734.2	2	0732.5	0737.5	2				IIIGG,RS
			CULG	0733	0733.5	1							IIIG,RS
			BLEN	0855		2							I,DC
			BLEN				0959.4	1005.8	2				IIIG
			BLEN				1118.5	1118.7	2				IIIG
			BLEN				1304.7	1310.2	1				IIIG
			WEIS				1306.5	1313.5	3				IIIGG
			SGMR				1308.8	1309.2	1				CONT
			BLEN	1420.5	1715	3	1422.5	1721 D	3				IV,II
			SGMR				1422.8	1424.2	2				V
			WEIS				1423.3	1428.0	3				IIIGG
			WEIS				1423.5	1440.0	3				II
			WEIS				1424	1711	3				IV
			SGMR				1430.0	1430.5	1				CONT
			SGMR				1449.0	1638.0	1				B
	1603	2400	HARV				1603	2348	2				I
			HARV				1909		1				IIIB,W
	2034	2400	CULG				2034	2054	2				IS,C
			CULG	2034	2314								IS,W
			CULG				2040	2400					IIIN,W
			CULG				2054	2255	2				IS
			HARV				2152		1				IIIB,W
			HARV				2220	2239	2				IIIGG
			CULG				2231	2259	2				IIIG,N
			CULG	2237	2247	2							IIIN
			HARV				2244	2247	2				IIIG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
06			HARV				2252		2				IIIG,U
			CULG				2255	2400	1				IS
			CULG	2314	2400	1							IS
			CULG				2357.5	2358	2				IIIG,V
			HARV				2358		2				IIIG,U
07			CULG	0000	0056	1	0000	0100	1				IS
	0000	0734	CULG				0000	0046					IIIN,W
			CULG				0017	0017.5	2	0017	0017.5	1	IIIG
			CULG				0046	0224					IIIS,W
			CULG							0055	0120	2	SWF
			CULG				0056	0142	1				IIIN
			CULG	0056	0540	2							IS,C
			CULG				0100	0550	2				IS,C,DC
			CULG				0224	0240	1				IIIS
			CULG				0240	0734					IIIN,W
			CULG				0301.5	0302	2				IIIG
			CULG				0524	0734	1				IIIN
			CULG				0526		2				IIIB
	0534	1357	WEIS				0534	1717	2				CONT,IS
			CULG							0535	0551	2	SWF
	0537	1715	BLEN	0537	0542	2	0537	0542	3				II,DCIM
			WEIS				0537.8	0541.4	3				IIIGG
			LEAR				0537.9	0751.0	2			IV	
			CULG	0538	0541.5	2	0539	0543	3				IIIGG,V
			CULG	0540	0734	3							IS,C
			BLEN	0540	1715 D	2	0540	1715 D	2				C,DCIM
	1401	1717	WEIS				0543	1703	2				IIIN
			CULG				0550	0734	3				IS,C,DC
			CULG				0602.5		2				IIIB
			LEAR				0847.0	0849.2	2				CONT
			WEIS				1015.8	1016.6	2				IIIG
			WEIS				1033.9	1039.6	3				IIIGG
			BLEN				1100	1715 D	2				I,DC
			WEIS				1254.2	1255.3	3				IIIG
			SGMR				1254.5	1254.8	2				V
	1318	2345	HARV				1318	2345	3				IC
			HARV				1319	2345	2				IIIN
	0925	1623	DWIN	1411	1451	1							IC
			WEIS				1512.9	1513.4	2				IIIG
			HARV				1513		2				IIIB
			SGMR				1513.0	1513.2	1				III
			HARV				1638		2	1638		2	IIIG
			HARV				1643		2				IIIB
			HARV				1745		2				IIIB
			HARV				1907		2	1907		2	IIIB,V
			HARV				1912	1914	2	1912	1914	2	IIIG
			CULG				2034	2400					IIIN,W
			CULG				2034	2400	2				IS,C,DC
	2034	2400	CULG	2034	2400	1							IS,C
			CULG				2048.5		1				RS,DP
			CULG				2059.5	2107	2				DC
			CULG				2142		1				IIIB
			HARV				2223		2				IIIB
			CULG				2223.5		2				IIIB
			HARV				2328	2330	2				IIIG
			LEAR				2328.3	2331.2	1				CONT
			CULG				2328.5	2329	1				IIIG
			CULG				2329.5	2330	2				IIIG
08			CULG				0000	0734	2				IS,C,DC
	0000	0734	CULG	0000	0734	1							IS,C
			CULG				0011	0734					IIIN,W
			LEAR				0055.5	0101.2	2				CONT
			CULG				0055.5	0057.5	2	0055.5	0057.5	1	IIIGG
			CULG				0057	0734					N,RS,DP,W
			CULG				0100	0639	2	0100	0322	1	IIIG,N
			PALE				0158.2	0159.4	3				V
			CULG				0158.5	0159	3	0158.5	0159	2	IIIG,V
			LEAR				0158.6	0159.4	2				V

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
08			CULG							0306	0320	2	SWF
			CULG				0444	0445	3	0444	0444.5	1	IIIG,V
			LEAR				0444.0	0445.3	3				V
			LEAR				0528.8	0531.0	2				V
			CULG				0529	0530	3	0529	0530	1	IIIG,V
	0532	1724	WEIS				0533.0	1723.0	2				IN,CONT
	0540	0833	BLEN	0540 E	0833 D	2	0540 E	0833 D	2				C
			WEIS				0637.0	1722.0	2				IIIN
			CULG				0702	0730	1				SCINT
	0918	1713	BLEN	0918 E		2	0918 E		2				C
	0815	1740	DWIN	0943.0		2							IIIB
			WEIS				1116.4	1116.9	2				IIIG
			BLEN	1124.5	1143.5	2							DCIM
			DWIN	1129.6		1							IIIB
			DWIN	1132.6		2							IIIB
			DWIN	1142.5	1142.6	2							IIIG
			WEIS				1157.3	1202.7	3				IIIGG
			BLEN	1157.4	1158.2	3							UNCLF
			SGMR				1159.3	1159.5	1				III
			BLEN	1219.3	1219.7	2							UNCLF
	1303	2350	HARV				1303	23?0	2				IC
			HARV				1314	2256	2				IIIN
			DWIN	1332.5	1332.8	2							IIIG
			BLEN	1332.6	1348.5	2							DCIM
			HARV				1359	1419	2				IIIGG
			BLEN	1407.0	1425.0	2	1407.0	1425.0	2				IIIGG
			BLEN				1525	1713 D	2				I,DC
			DWIN	1528.2	1528.5	1							IIIG
			BLEN	1528.3	1529.9	2							DCIM
			DWIN	1529.6	1529.7	1							IIIG
			DWIN	1532.6	1533.1	1							IIIG
			HARV				1603	1604	3	1603	1604	3	IIIG,U
			WEIS				1603.3	1605.6	3				IIIG
			HARV				1630		1				IIIB
			HARV				1745	1850	2				DC
			CULG				2034	2400	1				IS
	2034	2400	CULG	2034	2400								IS,W
			HARV				2058		2				IIIB
			CULG				2058	2150	1				IIIN
			HARV				2149	2157	3				IIIGG
			CULG				2150	2400					IIIN,W
			CULG	2153	2154	2	2153	2154	2				IIIGG
			PALE				2153.1	2156.7	2				V
			CULG	2155	2155.5	1	2155	2156.5	3				IIIG,V
09	0000	0734	CULG	0000	0734		0000	0207					IS,W
			CULG				0048	0.55	1	0051	0055	1	IIIN
			LEAR				0048.5	0059.0	1				CONT
			PALE				0059.1	0437.0	1				B
			CULG				0105.5	0106	2				IIIG,U
			LEAR				0154.2	0154.4	1				V
			CULG				0207	0500	1				IS,DC
			CULG				0500	0734	2				IS,DC
	0520	1000	WEIS				0521	0955	2				IS
	0540	0900	BLEN	0540 E	0900 D	2	0540 E	0900 D	2				I,DC
	0635	1720	DWIN										
			CULG				0645.5	0646	2				IIIB
			LEAR				0645.6	0646.7	2				CONT
			WEIS				0645.6	0646.6	3				IIIG
			CULG				0646	0717	1				IIIN
			LEAR				0659.1	0702.0	1				CONT
			WEIS				0659.2	0702.9	2				IIIGG
			CULG				0702		2				IIIB
			LEAR				0707.9	0959.0	1				B
			WEIS				0715.2	0717.8	2				IIIGG
			CULG				0716.5		2				IIIB
			WEIS				0832.2	0832.8	2				IIIG
	1303	2345	HARV				1303	2345	2				I
			HARV				1306	1308	2				IIIG
			HARV				1314	1316	2				IIIG

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
09	1318	1710	BLEN	1318 E	1710 D	2	1318 E	1710 D	2				I,DC
			BLEN				1331.9	1332.6	2				IIIG
			HARV				1332	1333	2				IIIG
			HARV				1430		2				IIIGG
			HARV				1457		3				IIIG,V
			SGMR				1600.7	1611.6	1				CONT
			HARV				1601	1604	2	1601	1604	2	IIIG,V
			HARV				1612	1613	3	1612	1613		IIIG
			BLEN				1612.3	1612.5	2				IIIG
			HARV				1623		1				IIIG
			HARV				1632		2	1632		2	IIIG
			HARV				1647	1648	3				IIIG
			HARV				1711		2	1711		2	IIIG
			HARV				1721	1724	3	1721	1724	3	IIIGG,V
			SGMR				1721.1	1721.9	2				CONT
			HARV				1752	1809	2	1752	1809	2	IIIN
			PALE				1928.8	1931.2	2				V
			HARV				1929	1930	3	1929	1930	2	IIIGG
			HARV	2025		2							IIIB
			CULG				2033	2258					IIIN,W
	2033	2400	CULG				2033	2220	1				IS,DC
			CULG	2033	2400								IS,W
			HARV				2121	2123	2				IIIG
			CULG				2121.5		1				IIIB
			CULG				2126.5	2127	2				IIIG
			HARV				2127		3				IIIG,U
			PALE				2127.8	2128.1	1				III
			HARV				2209		2	2209		2	IIIG
			CULG				2209	2209.5	3				IIIB
			CULG				2220	2400					IS,W
			CULG				2229	2232	1				UNCLF
			HARV				2233	2240	2				II
			CULG				2236.5	2241.5	2				II
			PALE				2236.8	2244.4	1				II
10	0000	0733	CULG	0000	0733		0000	0733					IS,W
			PALE				0046.8	0048.0	3				III
			LEAR				0046.8	0048.8	2				CONT
			CULG				0047	0706	1	0047	0152	1	IIIN
			CULG				0047.5	0048	3	0047.5	0049	2	IIIG
			LEAR				0107.6	0116.2	1				CONT
			PALE				0107.6	0107.8	1				III
			CULG	0108	0416	1							IIIN
			PALE				0115.8	0116.0	1				III
			CULG				0124	0126	3	0124.5	0126.5	2	IIIGG
			LEAR				0124.0	0128.0	2				V
			PALE				0124.0	0128.3	3				V
			LEAR				0148.2	0958.0	1				B
			CULG	0251	0252.5	2	0251.5	0252	1				IIIGG
	0540	1305	BLEN	0540 E	1305 D	2	0540 E	1305 D	2				I,DC
	0620	1345	DWIN										
			CULG				0639	0640	3				IIIG
			LEAR				0639.2	0640.1	2				V
			CULG				0653	0655.5	3				IIIG,U
			LEAR				0653.0	0655.8	2				CONT
			LEAR				0800.2	0801.8	2				CONT
			BLEN				0800.2	0800.9	3				IIIGG
			BLEN	1025.1	1027.3	3							IIIGG
	1304	2350	HARV				1304	2350	2				I
			HARV				1313		3				IIIB
			HARV				1345	1346	1				IIIG
			SGMR				1354.7	1408.1	2				V
			HARV				1355		2				IIIG
			HARV				1400	1404	3				IIIGG
	1405	1713	BLEN	1405 E	1713 D	1	1405 E	1713 D	1				I,DC
			HARV				1406	1409	3	1406	1409	2	IIIG,V
			BLEN				1407.8	1408.2	2				IIIG
			BLEN	1418.8	1424.9	2							DCIM
			HARV	1423		2							IIIG
	1433	1730	DWIN										

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
10			BLEN	1539.8	1540.1	2							DCIM
			HARV				1609		1	1609		1	IIIG,W
			SGMR				1621.2	1624.5	1				CONT
			BLEN	1705.8	1706.3	3							IIIG
			HARV	1706		2	1706		2				IIIG
			HARV				1805		1	1805		1	IIIB,W
			HARV				1826		2	1826		2	IIIG
			HARV				1913		1				IIIB
			HARV				2005		1	2005		1	IIIB
			HARV				2009		1				IIIB
	2033	2400	CULG	2033	2115	1							IS
			CULG				2033	2400	1				IS,DC
			CULG				2035	2202					IIIN,W
			CULG	2115	2400								IS,W
			CULG	2127	2400	1							N,DCIM
			CULG	2127	2400								IIIN,W
			HARV				2139	2140	1				IIIG
			HARV				2201	2202	2	2201	2202	2	IIIG
			CULG				2201	2201.5	2				IIIG
			PALE				2201.3	2202.4	1				III
			HARV				2315		2				IIIG
			CULG				2315		1				IIIB
			HARV				2335		1				IIIB,W
11	0000	0733	CULG	0000	0733	1	0000	0733	1				IS,DC
			CULG	0044	0112		0044	0112					IIIN,W
			CULG	0103	0103.5	2							IIIG
			LEAR				0146.6	0147.0	1				CONT
			LEAR				0240.6	0255.6	1				S
			CULG				0255	0255.5	1	0255	0255.5	1	IIIG
			LEAR				0413.5	0418.4	1				CONT
			CULG				0413.5	0414	1				IIIG
			CULG	0416.5	0417	1	0416.5	0417	1				IIIG
			CULG				0427.5	0429.5	2				IIIG
			LEAR				0427.7	0957.0	1				B
			CULG	0512	0514.5	2	0512	0514.5	2				IIIG
			CULG	0517.5	0518	2							IIIG
	0535	0951	BLEN	0535 E	1715 D	2	0535 E	1715 D	2				I,DC
			CULG				0634	0636	1				IIIG
	0551	1729	WEIS				0652	1724	2				IS,DC
			WEIS				0658	1615	2				IIIN
			LEAR				0916.5	0916.8	2				III
			WEIS				0916.6	0917.1	3				IIIB
			WEIS				0954.9	0955.5	3				IIIG
			WEIS				1008.2	1010.6	3				IIIG
			WEIS				1036.7	1037.5	3				IIIG
	1035	1715	BLEN				1036.8	1037.1	3				IIIG
			SGMR				1104.3	1104.6	1				III
			WEIS				1105.3	1106.6	3				IIIG
	1303	2345	HARV				1303	2345	2				I
			WEIS				1305.9	1306.8	3				IIIG
			HARV				1306	1307	2				IIIG
			WEIS				1310.8	1312.3	3				IIIG
			BLEN	1310.8	1311.8	1	1310.8	1311.8	1				DCIM
			HARV				1311	1312	2				IIIG
	0630	1730	DWIN	1311.0	1311.5	1							IIIG
			HARV				1324	1326	2				IIIG
			BLEN	1348.7	1350.5	1	1348.7	1350.8	1				IIIGG,DCIM
			HARV				1349	1351	2				IIIG
			DWIN	1349.1	1350.5	1							IIIG
			DWIN	1359.0	1359.4	1							IIIG
			HARV				1425	1426	3				IIIG
			HARV	1459		1	1459		2				IIIG
			WEIS				1459.2	1500.0	3				IIIG
			BLEN	1459.2	1511.5	2	1459.2	1511.2	2				DCIM,RS
	0630	1730	DWIN	1510.5	1511.7	2							IIIG
			WEIS				1510.7	1511.3	2				IIIG
			HARV	1511		1	1511		2				IIIG
			WEIS				1516.9	1517.9	3				IIIG
			HARV				1517	1518	3	1517	1518	2	IIIG

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11			HARV				1521		3				IIIG
			WEIS				1521.3	1521.5	2				IIIG
			HARV				1530	1531	3				IIIG
			WEIS				1530.2	1532.1	3				IIIG
			HARV				1540		1	1540		1	IIIB,W
			HARV				1736		1				IIIB,W
			HARV				1801	1804	1	1801	1804	1	IIIG
			HARV				1818		1				IIIG,W
			HARV	1821	1822	2	1821	1826	3	1821	1826	3	IIIGG,V
			PALE				1821.0	1828.0	3				V
			SGMR				1821.5	1823.1	3				V
			HARV				1848	1849	2				IIIG
	2033	2400	CULG	2033	2400								IS,W
			CULG				2033	2400	1				IS
			CULG				2101	2200					IIIN,W
			CULG				2126.5	2127.5	2				IIIG
			PALE				2126.8	2133.8	1				CONT
			HARV				2127		2				IIIG
			HARV				2132	2133	2				IIIG
			CULG				2132	2134	2				IIIG
			CULG	2142.5	2143	1							DCIM
			CULG				2145.5	2146	2				IIIG
			HARV				2146		2				IIIG
			CULG				2200	2325					IIIS,W
			HARV				2251	2300	2	2251	2300	2	IIIGG,V
			PALE				2251.0	2334.8	1				S
			CULG				2253	2302	2				IIIGG,V,U
			LEAR				2253.3	2258.2	1				CONT
			HARV				2315	2316	2				IIIG
			CULG				2315		1				IIIB
12	0000	0733	CULG	0000	0056	2	0000	0210	1				IS
			CULG				0046	0419					IIIN,W
			LEAR				0046.4	0957.0	1				B
			CULG				0127.5	0129	2	0127.5	0128.5	1	IIIG,U
			PALE				0127.6	0129.0	1				V
			CULG	0323	0323.5	2							DCIM
			CULG				0419	0640	1				IIIN
			LEAR				0457.1	0459.1	2				V
			CULG	0457.5	0458	1	0457	0459	3				IIIG,V
	0514	1332	WEIS				0518	1627	2				IN,CONT
	0535	1718	BLEN	0535 E	1718 D	3	0535 E	1718 D	3				I,DC
	1340	1731	WEIS				0547	1731	2				IIIN
			BLEN	0558.5	0602.0	2							DCIM,RS
			CULG	0602		2							DCIM
			BLEN	0620.3	0620.7	2							IIIG
			CULG	0620.5	0621	2							DCIM
			BLEN	1141.0	1141.3	3							IIIG
	0630	1730	DWIN	1235.2		2							IIIB
			BLEN	1235.2	1235.3	2							IIIB
			BLEN	1253.0	1257.7	2							DCIM
	1304	2400	HARV				1304	2400	2				IC
			HARV				1338	1339	2				IIIG
			SGMR				1338.2	1340.1	1				V
			BLEN	1338.2	1339.4	1	1338.2	1338.5	2				IIIG,DCIM
			HARV				1402	1413	2				IIIGG
			BLEN				1406.5	1408.1	2				IIIG
			BLEN	1653.5	1654.7	2							DCIM
			HARV	1654	1655	1							IIIG,W
			PALE				1948.9	1950.4	1				V
			PALE				2002.4	2007.3	1				CONT
			HARV				2007		2				IIIG
			HARV				2027		2				IIIB
			HARV				2032	2033	2				IIIG
	2033	2400	CULG	2033	2400	1	2033	2400	2				IS
			HARV				2040	2048	2				IIIGG
			CULG	2040	2043	1	2040	2045.5	3				IIIGG,V
			CULG				2047	2047.5	1				UNCLF
			PALE				2048.9	2050.4	1				V
			HARV				2053	2100	3				II

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
12			CULG				2053	2104.5	3				II
			PALE				2053.8	2103.0	1				II
			HARV	2225	2228		2224	2227	3				IIIG
			CULG	2226	2227	2	2225.5	2227	2				IIIGG
			CULG				2235	2344.5	2				II
			HARV				2236	2242	2				II
			HARV	2300	2303	2							IIIG
			CULG	2300.5	2303.5	2							IIIG
			HARV				2326	2338	3				IIIGG
			CULG				2326	2350	1				IIIS
			CULG				2326	2332	2				IIIGG
			HARV				2343	2350	2				IIGG
13	0000	0733	CULG	0000	0733	1	0000	0733	1				IS
			CULG				0002	0733	1				IIIN
			LEAR				0018.0	0956.0	1				B
			CULG				0157.5	0158	1				IIIG
			CULG				0213	0214.5	2	0213.5	0214	2	IIIG,V
			CULG	0230.5	0231	2	0225.5	0230	2				IIIG
			CULG				0241.5	0242	2				IIIG
	0511	1734	WEIS				0511	1718	2				IS
			WEIS				0521	1638	3				IIIN
	0532	1720	BLEN	0532 E	1720 D	3	0532 E	1720 D	3				I,DC
			WEIS				0709.5	0709.8	3				IIIG
			CULG				0709.5	0710	3				IIIG
			BLEN				0709.5	0709.7	3				IIIG
			BLEN	0828.3	0831.8								DCIM
			WEIS				0829.4	0830.6	1				IIIG
	0625	1310	DWIN	0847.1	0847.3	2							IIIG
			BLEN	0859.7	0913.7	2	0902.2	0913.7	2				IIIGG,DCIM
			WEIS				0900.6	0913.8	3				IIIGG
			DWIN	0901.2	0901.4	1							IIIG
			LEAR				0903.2	0913.7	1				S
			DWIN	0903.4	0907.7	2							IIIG
			WEIS				0952.3	0953.2	3				IIIG
			BLEN	0952.5	0953.2	2	0952.5	0953.2	2				IIIG
			DWIN	1023.8	1024.7	2							IIIG
			BLEN	1023.8	1024.9	3	1023.8	1024.9	3				IIIGG,DCIM
			WEIS				1023.9	1024.8	3				IIIGG
			BLEN	1059.5	1102.0	2	1059.5	1102.0	2				IIIGG
			DWIN	1227.5	1230.5	2							IIIGG
			BLEN	1227.5	1240.5	2	1226.1	1240.5	3				IIIGG,DCIM
			WEIS				1229.7	1230.4	3				IIIGG,RS
			DWIN	1240.0	1240.6	2							IIIG
			BLEN	1410.0	1411.2	2	1410.0	1411.2	2				IIIGG
	1449	2345	HARV			2	1449	2345	2				I
			HARV				1555	1558	2				IIIG
			BLEN	1555.2	1555.8	2	1555.2	1555.8	2				IIIGG
			HARV				1735		2				IIIG
			HARV				1806		2				IIIB
			PALE				1806.2	1806.4	1				III
			HARV	1851		2	1851		2				IIIG
			HARV				1955	1956	2				IIIG
			HARV				1959	2004	2				II
	2033	2400	CULG	2033	2400	1							IS
			CULG				2034	2400					IN,W
			CULG				2036	2037	1				IIIG
			CULG	2133.5	2134	2							IIIG
			HARV	2134		3	2134		3				IIIG
			PALE				2141.8	2142.1	1				III
			HARV				2142	2148	2				IIIGG
			CULG				2142	2148	2				IIIG
			HARV	2156		2	2156		2				IIIB
			CULG	2156	2324	2							IIIN
			HARV	2314	2316	2	2314		2				IIIG
			HARV				2324		2				IIIG
14	0000	0733	CULG	0000	0733	1							IS
			CULG				0013.5						IIIB,W
			CULG				0018	0018.5	1				IIIG

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14			LEAR				0018.0	0018.3	1				V
			CULG	0026	0614	2							IIIN
			LEAR				0150.8	0151.3	1				CONT
			CULG				0507		1				IIIB
	0509	0825	WEIS				0510	1148	1				IN
	0530	1149	BLEN	0530 E	1718 D	2	0530 E	1718	2				I,DC
			WEIS				0535.8	0537.8	2				IIIGG
			BLEN	0535.8	0540.5	2	0535.8	0540.5	2				IIIGG
			WEIS				0550.8	0550.9	2				IIIB
			CULG				0608		1				IIIB
			WEIS				0608.7	0608.9	2				IIIG
			BLEN	0608.7	0613.7	2	0608.7	0613.7	2				IIIG
			CULG				0613		1				IIIB
			WEIS				0613.6	0613.8	2				IIIG
			CULG				0656	0730					IS,W
	0847	1302	WEIS				0909.6	0912.3	2				IIIG
			WEIS				0917.7	0918.9	1				IIIG
			BLEN	0941.0	0950.7	2	0941.0	0950.7	2				IIIG,RS
			BLEN	1030.0	1031.9	3							IIIG
	0800	1720	DWIN	1031.7	1031.9	1							IIIG
			BLEN	1107.2	1112.3	2							IIIG
			BLEN	1147.2	1148.5	2							IIIGG
			DWIN	1152.0	1153.8	2							IIIG
			WEIS				1215.7	1218.6	2				IIIG
			DWIN	1217.6	1218.6	1							IIIG
	1304	2345	HARV				1308	2345	1				I
			DWIN	1326.6	1326.8	1							IIIG
			HARV	1358	1359	1	1358	1359	1				IIIG
	1358	1718	BLEN	1358.3	1358.4	1							IIIG
			BLEN	1404.7	1404.9	1							DCIM
			HARV				1423	1424	1				IIIG,W
	1458	1736	WEIS				1634.6	1634.8	1				IIIG
			HARV				1738	1739	1				IIIG
			HARV				1921		2	1921		2	IIIB
			PALE				1921.1	1921.3	1				III
			HARV				1944	1945	2	1944	1945	2	IIIG
			PALE				1944.2	1945.4	2				V
			HARV	2004	2005	2	2004	2006	3				IIIGG
			PALE				2004.7	2006.3	3				V
			SGMR				2005.8	2006.0	2				V
			HARV				2010	2015	2				UNCL
	2033	2400	CULG	2033	2400								IS,W
			CULG				2036	2232					IIIN,W
			HARV	2057	2058	3	2057	2058	3				IIIG
			PALE				2057.4	2058.6	2				V
			SGMR				2057.5	2057.8	2				V
			CULG				2057.5	2058	2				IIIG,U
			CULG				2117		1				IIIB
			HARV	2136	2143	2	2136	2143	2				IIIGG
			CULG	2136	2143	2							IIIGG
			CULG				2138.5	2139	1				IIIG
			PALE				2138.8	2152.2	2				S
			HARV				2140	2151	3				II
			CULG				2141	2145					II W
			CULG				2145	2150.5	2				II H
			HARV				2151	2152	2				IIIG
			CULG				2151		2				IIIB
			HARV				2231	2232	2				IIIG
			CULG				2241		1				IIIB
15	0000	0732	CULG	0000	0732	1							IS
			PALE				0204.8	0226.1	3				V
			LEAR				0204.8	0209.0	2				CONT
			CULG	0205	0208	2	0204.5	0209	2	0205.5	0208.5	2	IIIGG,V
			CULG				0210	0211					POSS II,W
			LEAR				0213.7	0224.5	1				II
			CULG				0316.5	0320.5	1				IIIG
			CULG	0318	0319	1							UNCLF
			CULG				0416	0417	1				IIIG
			LEAR				0500.2	0501.7	1				V

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15	0507	1500	WEIS				0523.7	0524.1	2				IIIB
			LEAR				0523.8	0524.5	1				V
			CULG				0524		2				IIIB
			LEAR				0529.9	0530.3	1				CONT
	0530	1718	BLEN	0530 E	1718 D	2	0530 E	1718 D	2				I,DC
			WEIS				0530.2	0530.3	1				IIIB
			WEIS				0547.2	0550.8	3				IIIGG/V
			LEAR				0547.4	0551.7	2				V
			CULG	0548.5	0550	1	0547	0550.5	3				IIIGG,V
			BLEN	0548.6	0553.8	2	0547.5	0550.0	3				IIIGG,DCIM
			CULG	0550	0552	1							UNCLF
			BLEN	0550.0	0551.1	2	0550.2	0554.7	3			II	
			WEIS				0550.2	0611.5	3			II	HARMONIC
			CULG				0550.5	0609	3			II	H
			LEAR				0551.7	0612.5	2			II	
			CULG				0606.5		1				IIIB,RS
			WEIS				0614.4	0614.6	1				IIIB
			WEIS				0706.3	0708.9	3				IIIG
			LEAR				0707.4	0709.2	1				V
			CULG				0707.5	0708.5	1				IIIG,V
			WEIS				0736.9	0737.2	2				IIIB
			WEIS				0809.2	0809.4	1				IIIG
			WEIS				0824.0	1444.0	1				IN
			WEIS				0911.0	0911.2	1				IIIG
			WEIS				0918.1	0920.3	1				IIIG
			WEIS				1032.2	1032.6	1				U
			WEIS				1033.7	1034.3	1				IIIG
			WEIS				1049.3	1052.0	2			II	
			WEIS				1101.7	1122.0	3			II	HB
			SGMR				1104.3	1107.5	2			II	
			WEIS				1240.1	1247.2	2				IIIG
	1304	2340	HARV				1304	2340	2				I
	1504	1737	WEIS										
			BLEN	1511.0	1515.0	1							DCIM
	0625	1730	DWIN	1511.0	1515.0	2							IIIG
			HARV				1837	1838	2				IIIG
			HARV				1841	1842	1				IIIB,W
			HARV				1936		2				IIIG
			HARV				1946		2				IIIG
			PALE				2007.9	2009.3	2				CONT
			HARV				2008	2012	2	2008	2012	1	IIIGG
			HARV				2103	2104	2				IIIG
	2035	2351	CULG				2103						IIIB,W
			CULG	2117	2157								IN,W
			HARV				2124	2126	1				IIIG
			PALE				2147.2	2149.3	1				CONT
			CULG				2204.5	2205	2				IIIG,U
			HARV				2205		2				IIIG,U
16	0012	0732	CULG				0025.5						IIIB,W
			PALE				0037.2	0040.2	3				CONT
			CULG				0046.5	0047	2				IIIG
			CULG	0048	0048.5		0048	0048.5					IIIG,W
			CULG				0058	0058.5	2				IIIG
			CULG	0059	0100.5	1	0059	0100	3	0059.5	0100	1	IIIGG
			PALE				0213.5	0213.7	1				III
			CULG	0332	0527	1	0209	0732	1				IIIN
	0504	1718	WEIS				0524.2	0526.8	1				IIIG
	0625	0849	DWIN										
			WEIS				1105.7	1106.3	1				IIIG
			WEIS				1158.3	1158.7	1				IIIG
			WEIS				1258.0	1258.2	1				IIIB
			WEIS				1303.3	1303.5	1				IIIB
	0530	1718	BLEN	1337.8	1338.4	1							DCIM
	1420	1725	DWIN										
			WEIS	1531.3	1532.8	2							IIIG
			BLEN	1531.5	1532.8	2							
			WEIS				1559.8	1559.9	2				IIIB
	1443	2345	HARV				1623		2				I
			HARV	1640		2							IIIB

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
16			BLEN	1640.5	1640.6	2							IIIB
			HARV				1830	1831	1				IIIB,W
			HARV	1838		2							IIIB
			HARV	2003		1	2002	2003	1				IIIG,W
	2032	2400	CULG	2151	2151.5	1							IIIG
			HARV	2248	2248	2	2248	2250	3				IIIGG
			CULG	2248	2249.5	3							DCIM
17	0000	0732	CULG	0012.5	0013	1							DCIM
			CULG	0041	0044.5	1							DCIM
			CULG	0121	0130	2	0121	0127	1				IIIGG
			PALE				0122.8	0126.2	1				CONT
			LEAR				0124.7	0128.2	1				CONT
			CULG				0217		1				IIIB
			PALE				0217.2	0217.5	1				III
			LEAR				0217.2	0220.0	1				CONT
			CULG	0254		1	0254		1				IIIB
			LEAR				0308.0	0308.2	1				III
			CULG	0321	0321.5	1	0321	0325	1	0324.5		1	IIIG
			PALE				0321.4	0324.4	1				CONT
			LEAR				0321.4	0324.6	1				CONT
			LEAR				0345.4	0345.5	1				III
			CULG				0345.5						IIIB,W
	0503	0957	WEIS				0512.3	0512.4	1				IIIB
			LEAR				0747.0	0756.0	2				V
			WEIS				0747.3	0755.0	3				IIIGG/V
	0530	0900	BLEN				0749.2	0752.1					IIIGG
	0620	1318	DWIN	0751.0	0752.0	1							IIIG
			BLEN	0752.6	0753.1	1							DCIM
			LEAR				0758.0	0808.2	1			II	
			WEIS				0759.4	0808.5	2			II	
	0932	1715	BLEN										
	1025	1738	WEIS				1229.6	1229.8	1				IIIB
	1430	1720	DWIN										
	1303	2345	HARV				1539	1540	2				IIIG
			WEIS				1539.3	1514.1	2				IIIG
			HARV				1609	1614	1				IIIG
			WEIS				1611.0	1611.2	1				IIIB
			WEIS				1613.5	1613.7	1				IIIB
			WEIS				1627.0	1627.3	2				IIIB
			HARV				1650	1656	3	1650	1655	2	IIIG
			WEIS				1650.0	1656.0	3				IIIGG
			PALE				1652.4	1655.0	1				CONT
			WEIS				1704.4	1704.7	2				IIIG
			HARV				1705	1708	1				IIIG
			WEIS				1706.6	1707.1	1				IIIG
	2032	2400	CULG				2037	2040					IIIG,U,W
			HARV				2038	2040	2				IIIG,U
			PALE				2052.8	2059.4	2				CONT
			CULG	2053	2056	1	2050	2056	2				IIIGG
			HARV	2054	2056	1	2050	2056	3	2050	2056	2	IIIGG
			HARV				2059	2100	1				IIIG
			CULG				2059		1				IIIB
			HARV				2211	2212	1				IIIG
			PALE				2250.7	2302.4	2				S
			HARV				2251		1				IIIB
			CULG				2251		1				IIIB
			HARV				2253	2255	2				IIIG,U
			CULG				2253	2255.5	2				IIIG,V
			LEAR				2253.6	2302.4	1				CONT
			LEAR				2256.9	2300.2	1			II	
			HARV				2257	2308	3			II	
			CULG				2257	2306	3			II	H
18	0000	0731	CULG				0220	0221	1				IIIG
			LEAR				0220.3	0221.3	1				CONT
			PALE				0224.2	0224.5	1				III
			LEAR				0329.6	0329.8	1				III
			CULG				0415	0422					IIIN,W
			LEAR				0419.5	0421.2	1				V

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18			CULG				0419.5	0420.5	2				IIIG
			CULG	0421.5		1	0421.5		1				IIIB
			LEAR				0518.8	0519.4	1				CONT
			CULG				0519						IIIB,U,W
			LEAR				0550.7	0553.7	1				CONT
	0504	1740	WEIS				0550.7	0553.3	2				IIIG
			CULG	0551.5	0552.5	1	0550.5	0553.5	2				IIIG
	0530	1715	BLEN				0551.7	0552.3	2				IIIG
			LEAR				0622.4	0622.6	1				III
			WEIS				0622.4	0622.5	1				IIIB
			CULG	0631	0640								IIIN,W
			BLEN				0639.1	0642.4	2				IIIG
			WEIS				0639.2	0639.2	2				IIIG
			LEAR				0651.9	0657.3	1				CONT
			LEAR				0724.0	0724.2	1				III
			BLEN	0809.4	0810.5	2							DCIM
	0620	1315	DWIN	0810.3	0811.1	2							IIIG
			WEIS				1137.9	1138.2	1				IIIB
			WEIS				1140.6	1140.7	1				IIIB
			BLEN				1216.1	1216.5	1				I,III
	1303	2345	HARV				1309	1953	1				IIIN,W
			WEIS				1313.8	1314.3	1				IIIG
			HARV				1314		2				IIIG
			HARV				1347	2333	1				IN,W
			WEIS				1414.9	1417.3	3				IIIG
	1415	1720	DWIN										
			HARV				1415	1417	2				IIIG
			BLEN				1415.0	1415.4	2				IIIG
			WEIS				1444.3	1444.8	2				IIIG
			HARV				1708	1710	2	1708	1710	2	IIIG
			WEIS				1708.1	1710.1	3				IIIG
			PALE				1708.1	1713.9	1				CONT
			HARV				1712	1714	3	1712	1714	2	IIIG
			WEIS				1712.2	1714.3	3				IIIG
			BLEN	1713.4	1713.9	2	1708.4	1713.9	2				IIIG
			PALE				1749.0	1749.9	1				III
			HARV				2028	2030	3	2030		1	IIIG
			PALE				2028.3	2030.7	1				CONT
	2031	2400	CULG										
19			LEAR				0224.3	0224.6	1				V
	0000	0731	CULG				0224.5		1				IIIB
			PALE				0320.5	0324.3	2				V
			CULG	0344.5	0346.5	1							IIIG
			CULG				0350.5	0351	1				IIIG
			LEAR				0350.6	0351.6	1				V
			LEAR				0352.0	0354.2	2				V
			CULG				0353	0354.5	3	0353	0354	2	IIIG,V
	0530	1715	BLEN				0622.4	0622.6	2				IIIG
			CULG	0713.5			0713.5	0714					IIIG,W
			BLEN	0713.6	0713.6	1	0713.4	0713.6	1				IIIG
			LEAR				0713.6	0724.5	1				III
			LEAR				0725.5	0800.5	1				S
			BLEN				0746.1	0746.3	2				IIIG
	0800	1741	WEIS				0836.4	0836.8	2				IIIG
	0620	1715	DWIN	1156.2	1157.2	1							IIIG
	1303	2345	HARV				1303	2345	1				IN,W
			HARV				1349	1350	2				IIIG
			BLEN	1349.3	1351.2	1	1349.3	1349.8	2				UNCLF
			WEIS				1349.4	1349.8	2				IIIG
			WEIS				1508.6	1510.7	3				IIIG
			HARV				1509	1510	3				IIIG
			HARV				1554	1556	2				IIIG
			BLEN	1554.1	1556.0	2	1554.1	1556.0	2				IIIGG
			WEIS				1554.3	1556.0	2				IIIG
			WEIS				1639.3	1640.3	2				IIIG
			HARV				1640		2				IIIB
	2031	2400	CULG				2356.5	2400					I,W
20	0000	0730	CULG	0057	0323								IS,W

SOLAR RADIO EMISSION
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APRIL 1980

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
20			LEAR				0129.5	0131.0	1				CONT
			PALE				0129.8	0130.0	1				III
			CULG	0309	0309.5	2							IIIG
			LEAR				0418.3	0429.8	1				S
			LEAR				0526.9	0529.9	1				CONT
	0528	1137	BLEN										
	0459	1522	WEIS				0529.7	0529.9	1				IIIB
	0620	1348	DWIN										
			WEIS				0638.2	0638.4	1				IIIB
			LEAR				0638.2	0638.5	1				III
			WEIS				0652.4	0656.8	1			II	
			CULG				0654	0658	1				DC
			WEIS				0726.3	0726.4	1				IIIB
	1310	1720	BLEN	1338.6	1338.7	1							DCIM
			BLEN	1505.9	1506.7	2							DCIM
			BLEN	1611.5	1611.8	2							DCIM
	1303	2345	HARV				1621		2				IIIB,W
	1647	1741	WEIS										
			BLEN	1714.5	1714.7	1							DCIM
			HARV				1743	2345	1				I
			HARV				1931		1				IIIG
	2031	2400	CULG	2200	2225								IS,W
21	0000	0731	CULG	0035	0115								IS,W
	0525	1720	BLEN	0950	1720 D	3	0950	1720 D	3				I,DC
			BLEN	1030.2	1030.4	1							DCIM
			BLEN				1031.5	1031.5	1				IIIB
	0456	1744	WEIS				1031.6	1032.7	2				IIIG
			WEIS				1148.7	1148.9	1				IIIB
			WEIS				1243.7	1244.7	2				IIIG
	1304	2345	HARV				1305	2345	1				IN
			WEIS				1323	1728	1				IN
			HARV				1334		2				IIIG
			BLEN				1334.1	1334.3	2				IIIG
			WEIS				1334.2	1334.4	2				IIIG
	1405	1725	DWIN										
			HARV				1548	1549	2				IIIG
			WEIS				1548.2	1548.5	2				IIIG
			HARV				2204	2210	2				IIIGG
	2031	2400	CULG	2205	2400	1							IS
			CULG	2207			2207						IIIB,W
22	0000	0731	CULG	0000	0731								IS,W
	0525	1720	BLEN	0620	1720 D	2	0620	1720 D	2				I,DC
			BLEN	0758.8	0802.8	2	0758.8	0802.8	2				IIIGG
			LEAR				0802.7	0802.9	1				III
	0457	1101	WEIS				0802.7	0803.9	2				IIIG
			WEIS				0847.6	0848.3	2				IIIG
			BLEN	0848.1	0848.6	2							IIIG
			BLEN	0909.8	0909.8	2							IIIB
			WEIS				1017.7	1017.8	1				IIIB
			BLEN	1042.5	1044.5	1	1042.8	1044.3	1				DCIM
			BLEN	1059.0	1059.4	2	1059.0	1063.7	2				IIIGG
			WEIS				1059.3	1059.4	1				IIIB
			BLEN	1210	1500	2	1210	1500	2				C
	1106	1744	WEIS				1238.3	1238.4	1				IIIB
	1303	2345	HARV				1303	2345	1				I
			WEIS				1428.8	1429.0	1				IIIB
			WEIS				1511.6	1511.7	1				IIIB
	0615	1720	DWIN	1514.6	1515.1	2							IIIG
			BLEN	1514.7	1515.2	2							DCIM
			HARV	1515		2							IIIG
			BLEN	1554.8	1557.7	2	1554.8	1557.7	2				IIIGG
			WEIS				1554.9	1555.3	1				IIIG
			HARV	1555		2	1555		2				IIIG
			HARV				1626	1627	1				IIIB
	2031	2400	CULG	2134	2400								IS,W
			PALE				2149.7	2153.2	2				V
			PALE				2329.6	2330.2	3				III
			PALE				2340.1	2343.6	1				CONT

SOLAR RADIO EMISSION
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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
22			CULG				2340.5	2342					IIIG,W
			HARV				2342		1				IIIG
23	0000	0730	CULG	0000	0730	1							IS
			CULG				0145	0145.5					IIIG,W
			PALE				0145.0	0145.4	2				III
			CULG				0451	0452.5	2				IIIG
			LEAR				0457.3	0457.6	1				CONT
	0520	1306	BLEN	0520 E	1720 D	2	0520 E	1720 D	2				I,DC
	0455	1723	WEIS				0520	1711	2				IN
			LEAR				0610.2	0610.7	1				CONT
			BLEN	0949.0	0950.1	2	0949.0	0950.1	2				IIIGG
	0610	1730	DWIN	1140.9	1141.3	2							IIIG
			WEIS				1240.6	1241.1	1				IIIG
	1304	2345	HARV				1304	2345	2				IN
	1541	1720	BLEN										
	2030	2400	CULG	2030	2400	1							IS
24	0000	0730	CULG	0000	0730	1							IS
			CULG	0557	0558	2							DCIM
	0520	1720	BLEN	0557.0	0558.0	2							IIIGG
	0517	1745	WEIS	0557.3	0557.9	2							IIIG
			BLEN	0608.7	0608.7	1	0608.7	0608.7	1				IIIB
			BLEN	0610	1720 D	2	0610	1720 D	2				I,DC
			BLEN	0930.5	0933.4	2	0930.5	0933.4	2				IIIGG
			WEIS				0930.6	0931.3	3				IIIG
			WEIS				0932.7	0933.2	2				IIIG
	0610	1650	DWIN	0932.8	0933.0	1							IIIG
			BLEN	0951.4	0951.5	2	0951.4	0951.5	2				IIIG
			WEIS				1203.4	1203.6	2				IIIG
	1304	2345	HARV				1304	2345	1				IN
			BLEN	1400.8	1401.4	2							IIIG
			HARV				1401		2				IIIG
			HARV				1433	1434	2				IIIG
			BLEN	1433.2	1433.8	2							IIIGG
			WEIS				1433.3	1433.6	2				IIIG
			HARV				1638		1				IIIG
			HARV				1938		2				IIIG
	2030	2400	CULG	2033	2400	1							IS
			CULG				2141.5	2142.5	2				IIIG
			HARV				2142	2143	2				IIIG
			HARV				2234		1				IIIG
			HARV				2243	2244	1				IIIG,W
			HARV				2302		1				IIIG,W
25	0000	0718	CULG	0000	0718	1							IS
			CULG				0010.5						IIIB,W
	0650	1730	DWIN										
	0453	1046	WEIS				0754.7	0754.9	2				IIIG
			BLEN	0754.7	0754.8	2							IIIG
			BLEN	1251.8	1252.2	1							III
	1049	1749	WEIS				1251.9	1252.6	2				IIIG
	1303	2345	HARV				1304	2345	1				IN
			BLEN	1510.5	1510.7	2	1510.5	1510.7	2				IIIG
			WEIS				1510.7	1529.6	2				IIIGG
			HARV	1511		1	1511		2				IIIG
			HARV				1515	1528	1				IIIG,W
	0520	1720	BLEN	1520 E	1540	2	0520 E	1540	2				I
			BLEN	1525.2	1525.8	2							IIIG,U
			HARV	1857	1858	2							IIIG
	2030	2400	CULG	2033	2400								IS,W
26	0000	0730	CULG	0000	0730	1							IS
			CULG				0434.5						IIIB,W
	0515	1550	BLEN	0515 E	1550 D	2	0515 E	1550 D	2				I,DC
	0450	1749	WEIS				0531	1713	2				IN
			BLEN	0608.3	0609.3	2							IIIG,RS
			CULG	0608.5	0909.5	1							IIIG
			BLEN	0651.5	0651.8	1							DCIM
			CULG	0716.5	0717	1							IIIG

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
				START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
26			BLEN	0716.6	0716.8	1							IIIG
			WEIS				0834.5	0836.2	1				IIIG
			WEIS				0839.2	0839.4	1				IIIB
			WEIS				0945.8	0945.9	1				IIIB
			WEIS				0949.3	0949.7	2				IIIG
			WEIS				0954.5	0956.7	2				IIIG
			WEIS				1136.4	1136.8	2				IIIG,U
			WEIS				1214.1	1214.2	1				IIIB
			BLEN	1245.5	1246.2	1							DCIM
	1304	2400	HARV				1305	2345	1				IN
			BLEN	1308.8	1310.0	1							DCIM
			HARV				1334	1352	3	1341	1352	2 II	
			WEIS				1334.2	1352.5	3			II	HARMONIC
			BLEN				1334.7	1344.0	3			II	
			HARV				1337	1339	2				IIIG
			SGMR				1338.7	1349.3	3			II	
			WEIS				1433.3	1433.4	1				IIIG
			HARV				1923	1926	2				IIIG
			HARV				1931	1933	2				IIIG
			HARV	2027		2	2027		2				IIIB
			HARV	2031	2032	3							IIIG
	2030	2400	CULG	2033	2400								IS,W
			CULG				2133.5	2134	2				IIIG
			PALE				2133.6	2134.0	1				III
			HARV				2134		2				IIIB
			CULG	2136.5	2137.5	2							IIIG
			HARV	2137	2138	3	2137		1				IIIG
			HARV				2245		2				IIIG
			CULG				2245.5						IIIB,W
			HARV	2255		3	2255		3				IIIG
			CULG	2255	2255.5	2	2255	2255.5	1				IIIG
			HARV				2306	2307	2				IIIG
			CULG				2306	2307	2	2306	2307	1	IIIG
			PALE				2306.0	2307.1	2				V
			CULG				2329.5		1				IIIB
27	0000	0728	CULG				0004	0004.5	1				IIIG,U
			PALE				0004.0	0004.9	1				V
			LEAR				0004.2	0004.7	1				V
			CULG				0016	0728					IIIN,W
			PALE				0016.8	0021.5	1				CONT
			CULG				0017	0018	1				IIIG
			CULG	0021	0728								IS,W
			CULG	0025.5	0026.5	1							IIIG
			LEAR				0100.3	0150.7	1				S
			CULG				0100.5		1				IIIB
			PALE				0102.0	0107.6	1				CONT
			CULG	0106	0106.5	1							IIIG
			CULG				0112.5	0113.5	2				IIIG
			PALE				0129.0	0130.2	1				CONT
			PALE				0137.2	0144.1	2				CONT
			LEAR				0142.5	0144.1	2				CONT
			CULG	0142.5	0143.5	1	0142.5	0144	2	0142.5	0144	1	IIIGG
			PALE				0149.1	0149.9	1				V
			PALE				0204.1	0225.1	1				S
			LEAR				0204.2	0259.0	1				S
			CULG				0208	0209	2				IIIG
			PALE				0226.8	0231.0	3				CONT
			LEAR				0227.8	0233.5	3				CONT
			CULG	0228.5	0232.5	2	0226.5	0232	3	0226.5	0232	2	IIIGG,V
			CULG				0231	0232	1				POSS II
			CULG				0245	0250	1			II	
			PALE				0245.0	0253.0	1			II	
			LEAR				0245.5	0253.4	1			II	
			CULG	0251.5	0252	1							IIIG
			CULG	0259.5		1							IIIB
			LEAR				0314.7	0409.2	1				S
			CULG				0344	0344.5	2				IIIG
			CULG				0438	0439.5	3				IIIGG,V
			CULG	0442.5	0445	1							IIIG,U

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
27			LEAR				0503.6	0512.5	1				CONT
			CULG				0504	0505	2				IIIG
			LEAR				0516.6	0519.8	2				CONT
			CULG				0518	0519	3				IIIG
			LEAR				0544.0	0544.4	1				CONT
	0554	1752	WEIS				0555	1608	2				IIIN
			WEIS				0558	1523	2				IN
			LEAR				0617.0	0721.3	1				B
			CULG				0712.5	0714.5	1				IIIGG
			WEIS				0712.7	0714.4	3				IIIG
			CULG				0720	0721	1				IIIG
			WEIS				0720.2	0720.9	2				IIIG
			WEIS				0915	1050					CONT
			WEIS				1123.4	1124.3	2				IIIG
	1122	1722	BLEN	1124.5	1126.2	2							IIIGG
			BLEN	1145	1722 D	2	1145	1722 D	2				I,DC
			BLEN	1152.9	1153.1	1	1152.9	1153.1	1				IIIG
			BLEN	1201.8	1201.8	1							DCIM
	1304	2245	HARV				1304	2245	2				I
			BLEN	1423.2	1425.7	2							DCIM
			HARV				1644	1649	2				IIIG
			HARV				1711	1712	2	1711	1712	1	IIIG
			WEIS				1711.4	1712.6	2				IIIG
			HARV				1757		2				IIIG
			PALE				1957.7	2000.1	1				CONT
			HARV				1958		2				IIIG
	2032	2400	CULG	2033	2400	2	2035	2400	2				IS
			CULG				2040	2230					IIIN,W
			CULG	2047.5	2048	2							DCIM
28			CULG	0000	0730	1							IS
	0000	0730	CULG				0000	0144					IS,W
			CULG	0119.5	0120		0119.5	0120					IIIG,W
			PALE				0324.8	0325.9	1				III
			CULG	0329.5			0325.5	0329.5					IIIG,W
	1302	1753	WEIS				0526	1734	3				IIIS
	0515	1723	BLEN	0603.7	0604.2	1							DCIM
			CULG	0643	0716		0643	0716					IIIN,W
			WEIS				0643.2	0644.9	2				IIIG
			BLEN				0644.0	0644.7	2				IIIG
	0447	1259	WEIS				0646	1713	2				IN
			WEIS				0705.4	0706.8	2				IIIG
			CULG	0705.5	0707	2	0705.5	0706.5	2				IIIG
			BLEN	0706.0	0706.8	2	0705.3	0706.8	2				IIIGG
			WEIS				0715.7	0715.9	2				IIIG
			BLEN	0715.7	0715.9	2	0715.7	0715.9	2				IIIG
			BLEN	0810.5	0812.5	1							DCIM
			BLEN	0835	1723 D	2	0835	1723 D	2				I,DC
			BLEN	0900.8	0917.5	2	0916.8	0917.5	2				IIIG
	0848	1739	DWIN	0901.0	0903.0	2							IIIG
			WEIS				0901.3	0902.9	2				IIIG
			DWIN	0916.8	0917.3	1							IIIG
			BLEN	0939.2	0943.3	2	0939.2	0943.3	2				IIIGG
			WEIS				0939.3	0943.2	3				IIIG
			BLEN	0951.7	0952.2	2							DCIM,RS
			DWIN	0952.6		2							IIIB
			BLEN				1006.1	1011.7	3				IIIG,V
			WEIS				1006.4	1007.3	3				IIIG
			WEIS				1011.3	1011.7	3				IIIG
			WEIS				1036.8	1042.3	3				IIIG
			BLEN				1036.9	1045.5	3				IIIGG,V
			BLEN				1115.8	1116.2	2				IIIG
			BLEN				1135.8	1139.8	3				IIIGG,V
			WEIS				1135.8	1140.0	3				IIIG
			WEIS				1202.1	1209.0	3				IIIGG/V
			DWIN	1203	1206	2							IV F
			WEIS	1203.5	1207.5	1							CONT
			BLEN	1203.5	1204.8	2	1202.8	1205.6	2				IIIGG,V
			BLEN	1235.1	1245.4	2	1243.8	1245.4	3				DCIM,V
			DWIN	1236	1246	2							IV DCIM

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
28			WEIS				1243.3	1255.0	3				IIIGG
			WEIS				1244.0	1245.5	1				CONT
	1304	2245	HARV				1304	2245	2				I
			WEIS				1305	1430	2				CONT
			BLEN	1306.8	1307.5	1	1306.8	1307.5	1				IIIGG
			HARV				1307	1308	1				IIIG
			HARV				1319		2				IIIB
			HARV				1331		2				IIIG
			HARV				1345	1346	2				IIIG
			DWIN	1533.7	1535.0	2							IIIG
			BLEN	1533.8	1547.0	1	1545.0	1547.0	2				IIIG,DCIM
			HARV	1534	1535	1							IIIG
			DWIN	1543.2	1543.3	2							IIIG
			HARV				1545	1547	2				IIIGG
			HARV				1611		2				IIIB
			HARV				1617	1618	3				IIIG
			BLEN				1617.2	1617.5	2				IIIG
			HARV	1704	1710	3	1707	1708	3				IIIG
			DWIN	1704.1	1704.6	2							IIIG
			BLEN	1704.2	1718.4	2	1706.8	1707.9	3				IIIGG
			DWIN	1706.3	1707.3	2							IIIG
			WEIS				1706.4	1708.2	3				IIIGG
			PALE				1707.8	1708.0	1				III
			HARV				1743	1744	2				IIIG
			DWIN	1752.5		2							IIIB
			PALE				1812.9	1814.0	1				CONT
			HARV				1813	1814	2				IIIG
	2030	2400	CULG	2036	2400	1							IS
			HARV	2039	2041	3	2039	2041	3				IIIGG,V
			CULG	2039	2041	2	2039.5	2041	3				IIIGG,V
			SGMR				2040.0	2040.2	1				III
			PALE				2040.1	2041.1	2				V
			CULG	2115.5	2117	2							DCIM
			HARV	2116	2117	3							IIIG
			CULG				2315	2317	1				IIIGG
			CULG				2327.5	2328.5	2				IIIG
			PALE				2327.7	2328.3	2				III
			LEAR				2327.9	2328.3	1				CONT
29	0000	0730	CULG	0000	0730	1							IS
			PALE				0115.3	0118.0	1				CONT
			CULG				0116.5		1				IIIB
			CULG	0303	0304.5	3							IIIG
			CULG				0443.5	0444					IIIG,W
	0446	1754	WEIS				0526.3	0526.4	1				IIIB
	0510	1720	BLEN	0854.5	0855.3	1	0854.8	0855.3	1				IIIG
			WEIS				1038.7	1040.8	3				IIIGG
			BLEN				1039.0	1040.2	2				IIIGG
			BLEN	1108.8	1112.2	2	1108.8	1112.2	2				IIIGG,U
			WEIS				1108.9	1112.6	3				IIIGG
	0600	1405	DWIN	1109.0	1109.3	2							IIIG
			DWIN	1111.0		1							IIIB
			DWIN	1111.8	1112.0	1							IIIG
			WEIS				1147.3	1148.9	2				IIIG
			BLEN	1154.8	1156.8	2	1154.8	1156.8	2				IIIGG
			WEIS				1154.8	1157.4	3				IIIGG
			WEIS				1220.4	1220.8	2				IIIG
			WEIS				1249.7	1251.9	2				IIIG
			BLEN				1322.8	1326.0	2				IIIG
	1305	2245	HARV				1323	1330	3				IIIG,U
			WEIS				1323.9	1324.5	2				IIIG
			WEIS				1325.4	1326.6	2				IIIG
			WEIS				1329.7	1330.3	2				IIIG
			WEIS				1338.7	1338.9	1				IIIB
			HARV				1407	1408	2				IIIB,U
			WEIS				1407.0	1407.9	2				IIIG,U
			WEIS				1410.6	1410.8	2				IIIB
			HARV				1416		1				IIIG,W
			HARV				1418	2245	1				IN
			HARV				1419	1420	3				IIIG,U

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1980

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
29			WEIS				1419.2	1419.7	2				IIIG
			HARV				1427	1430	3				IIIGG,U
			WEIS				1427.4	1430.4	3				IIIGG
			BLEN	1427.5	1436.3	2	1419.2	1434.7	2				IIIGG,DCIM
			SGMR				1427.6	1430.0	2				V
	1430	1800	DWIN										
			HARV				1432	1437	2				IIIG
			WEIS				1432.2	1432.3	1				IIIB
			WEIS				1434.6	1435.1	2				IIIG
			WEIS				1436.5	1436.8	3				IIIB
			HARV				1442	1443	2				IIIG
			WEIS				1442.2	1443.3	3				IIIG
			WEIS				1510.4	1511.0	2				IIIG
			HARV				1511		1				IIIG
			WEIS				1524.3	1524.5	2				IIIG
			WEIS				1530.3	1530.4	1				IIIB
			BLEN	1609.2	1609.4	1							DCIM
			WEIS				1630.7	1637.8	3				IIIG
			BLEN	1635	1720 D	2	1635	1720 D	2				I,DC
			HARV				1637	1638	1				IIIG
			HARV				1738	1746	2	1738		1	IIIGG
			WEIS				1738.3	1740.9	2				IIIG
			PALE				1738.3	1741.3	1				CONT
			HARV				1802	1816	2				IIIG
			PALE				1802.1	1802.8	1				III
			HARV				1821	1830	2				IIIG
			HARV				1856		2				IIIB
			HARV				1901	1908	2				IIIG
			HARV				1930	1931	2				IIIG
			HARV				2028		1				IIIB
	2029	2400	CULG	2035	2400								IS,W
			CULG				2037.5		1				IIIB,U
			HARV				2038		1				IIIG
			CULG				2050	2400					IIIN,W
			HARV				2054	2056	3				IIIG
			CULG				2054	2054.5	3				IIIB
			CULG				2056	2056.5	2				IIIG
			HARV				2101		1				IIIB
			HARV				2136	2138	2				IIIG
			CULG				2136	2138.5	2				IIIG
			PALE				2153.9	2156.7	2				CONT
			HARV				2213		1				IIIG
			HARV				2222	2226	1				IIIG
			CULG				2347.5	2348	1	2347.5		1	IIIG
			LEAR				2347.7	2359.0	2				CONT
			CULG				2351	2352.5	3	2351	2352.5	2	IIIGG
			PALE				2351.0	2353.4	2				V
30	0000	0726	CULG	0000	0726								IS,W
			CULG				0015		1				IIIB
			LEAR				0116.5	0121.6	1				CONT
			CULG				0116.5		1				IIIB
			CULG				0120.5		1				IIIB
			CULG				0215	0726					IIIN,W
			CULG				0321	0435					IS,W
			LEAR				0330.0	0942.0	1				B
			CULG	0331.5	0332	1							IIIG
			CULG				0350	0350.5	1				IIIG
			CULG	0356	0356.5	1	0356	0356.5	1				IIIG
			CULG				0426.5	0427.5	2	0427	0427.5	1	IIIG
			CULG				0435	0526	2				IS,C
			CULG				0447.5		2				IIIB
	0443	0633	WEIS				0506.0	1651	2				IIIN
			CULG				0526	0552					IS,W
	0636	1755	WEIS				0530	1726	1				IN
			WEIS				0624.9	0626.3	3				IIIGG
	0510	1030	BLEN				0624.9	0626.2	2				IIIG
			CULG	0625	0626	1	0625	0626	2				IIIGG
			BLEN				0710.7	1716.5	2				IIIG
			WEIS				0710.7	0713.5	3				IIIGG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1980

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
30			CULG				0711		1				IIIB
			CULG				0712.5	0713	1				IIIG
			WEIS				0716.5	0716.8	2				IIIG
			BLEN	0728.9	0729.5	3							IIIG,U
	0600	1800	DWIN	0729.0	0729.5	2							IIIG
			WEIS				0729.3	0729.4	3				IIIG,U
			DWIN	0731.5	0732.0	"1							IIIG
			BLEN				0907.3	0907.6	2				III
			BLEN				0939.1	0947.5	2				IIIG
			WEIS				0939.2	0939.5	3				IIIG
			WEIS				0943.0	0947.5	2				IIIG,U
			DWIN	1014.6	1015.1	2							IIIG
			BLEN	1014.7	1015.2	1							DCIM
			BLEN	1130	1725 D	1	1130	1725 D	1				I
			WEIS				1132.0	1132.8	3				IIIG
	1113	1725	BLEN				1132.0	1150.7	2				IIIGG
			WEIS				1142.8	1143.3	2				IIIG
	1304	2245	HARV				1312	2245	2				IN
			HARV				1312	1313	1				IIIG
			HARV				1319		3				IIIG
			BLEN				1319.0	1319.7	2				IIIG
			WEIS				1319.1	1319.5	2				IIIG
			BLEN				1352.5	1413.8	2				IIIGG
			HARV				1353		2				IIIG
			HARV				1411	1414	3				IIIG
			WEIS				1411.5	1413.7	2				IIIG
			HARV				1504	1505	2				IIIG
			BLEN				1505.2	1505.4	2				III,U
			HARV				1521		2				IIIG
			HARV				1526		2				IIIG
			HARV				1532	1536	3	1533	1534		IIIGG,V
			WEIS				1532.1	1536.5	3				IIIGG
			BLEN	1532.5	1548.0	2	1532.5	1548.0	2				IIIGG,DCIM
			DWIN	1532.5	1533.0	1							IIIG
			SGMR				1532.8	1533.6	3				V
			DWIN	1533.6	1535.6	2							IIIG
			WEIS				1544.5	1544.6	1				IIIB
			HARV				1545		2				IIIG
			WEIS				1547.7	1548.0	2				IIIG
			HARV				1548		3				IIIG
			HARV				1630	1633	2				IIIG
			HARV				1644		1	1644			IIIG
			HARV				1740		2				IIIG
			HARV				1823	1824	2				IIIG
			HARV				1912		3				IIIG
			HARV				1923		2				IIIG
	2030	2400	CULG	2030	2400								IS,W
			CULG				2043.5	2044.5					IIIG,W
			HARV				2044	2046	2				IIIG
			CULG				2046	2046.5					IIIG,W
			HARV				2111		2				IIIG
			HARV				2131	2132	2				IIIG
			PALE				2204.5	2206.3	1				V
			HARV				2211	2213	2				IIIG
			CULG	2211.5		1	2211.5		1				IIIB
			CULG				2310.5	2311					IIIG,W
			CULG				2311	2311.5	1				IIIG
			LEAR				2347.7	2359.0	2				CONT
			CULG	2354	2354.5	1	2354	2354.5	2				IIIG
			CULG	2355		1	2355		1				IIIB

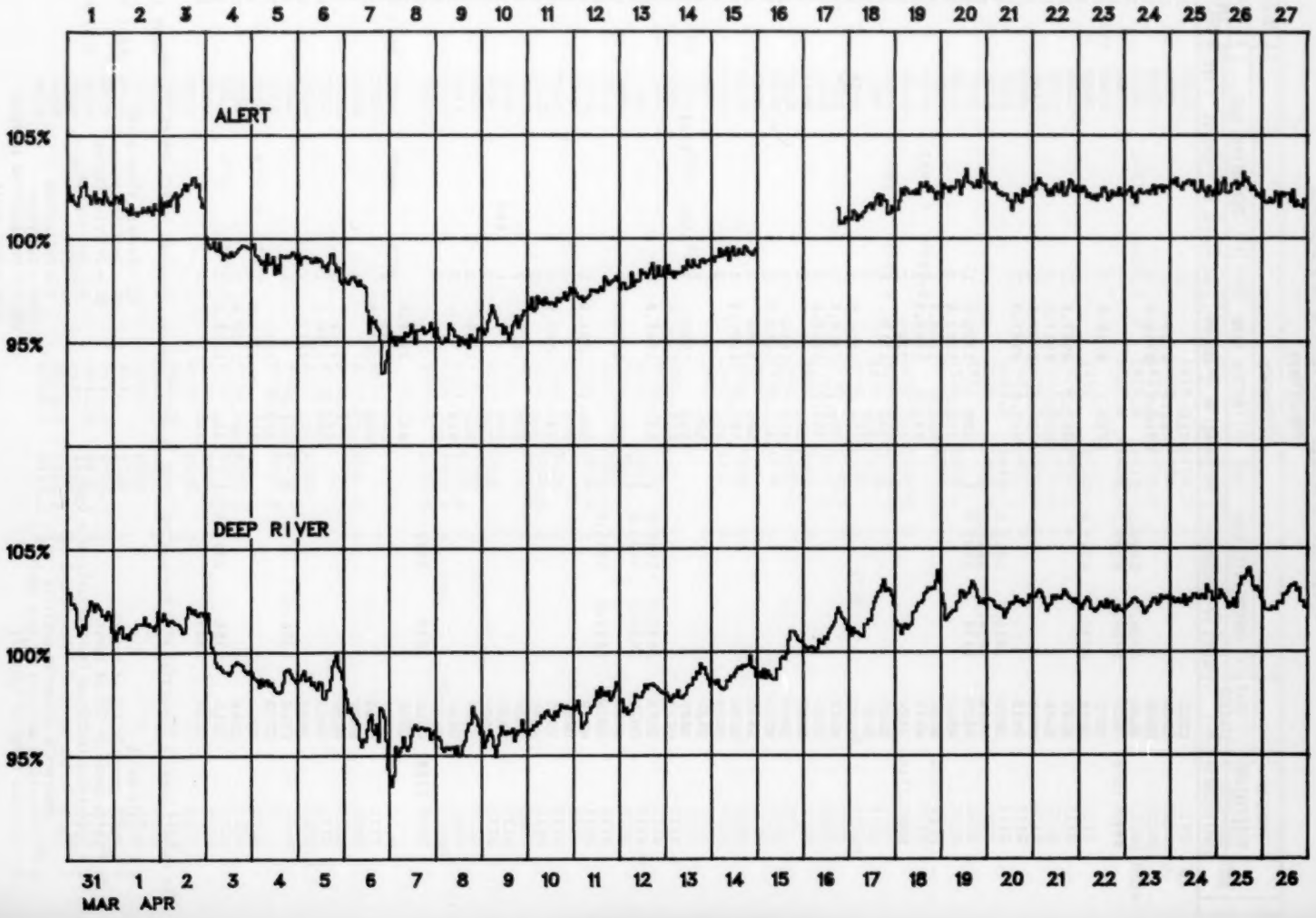
The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2005 (March 1980– April 1980)



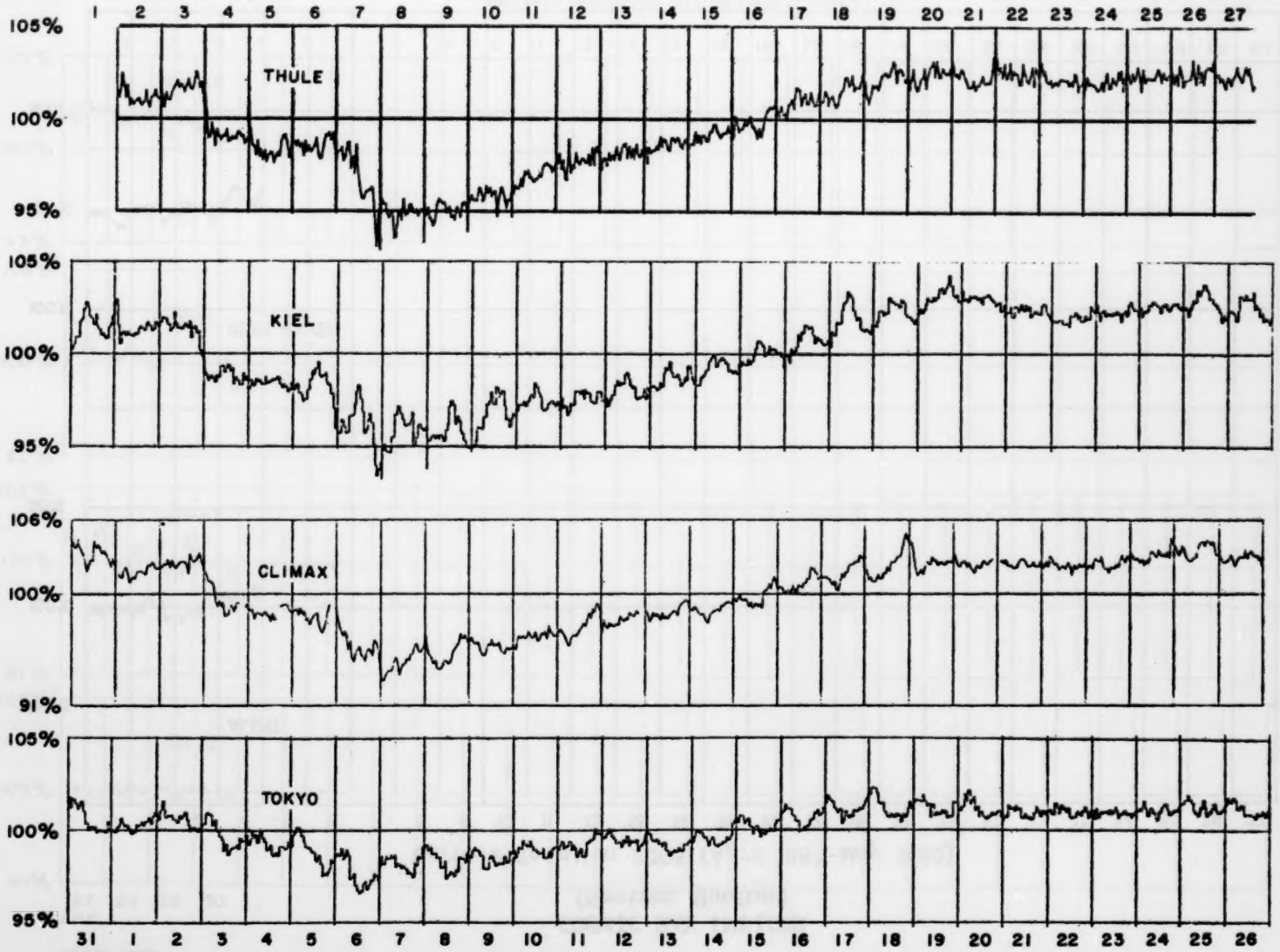
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 2005 (March–April 1980)

MAR APR

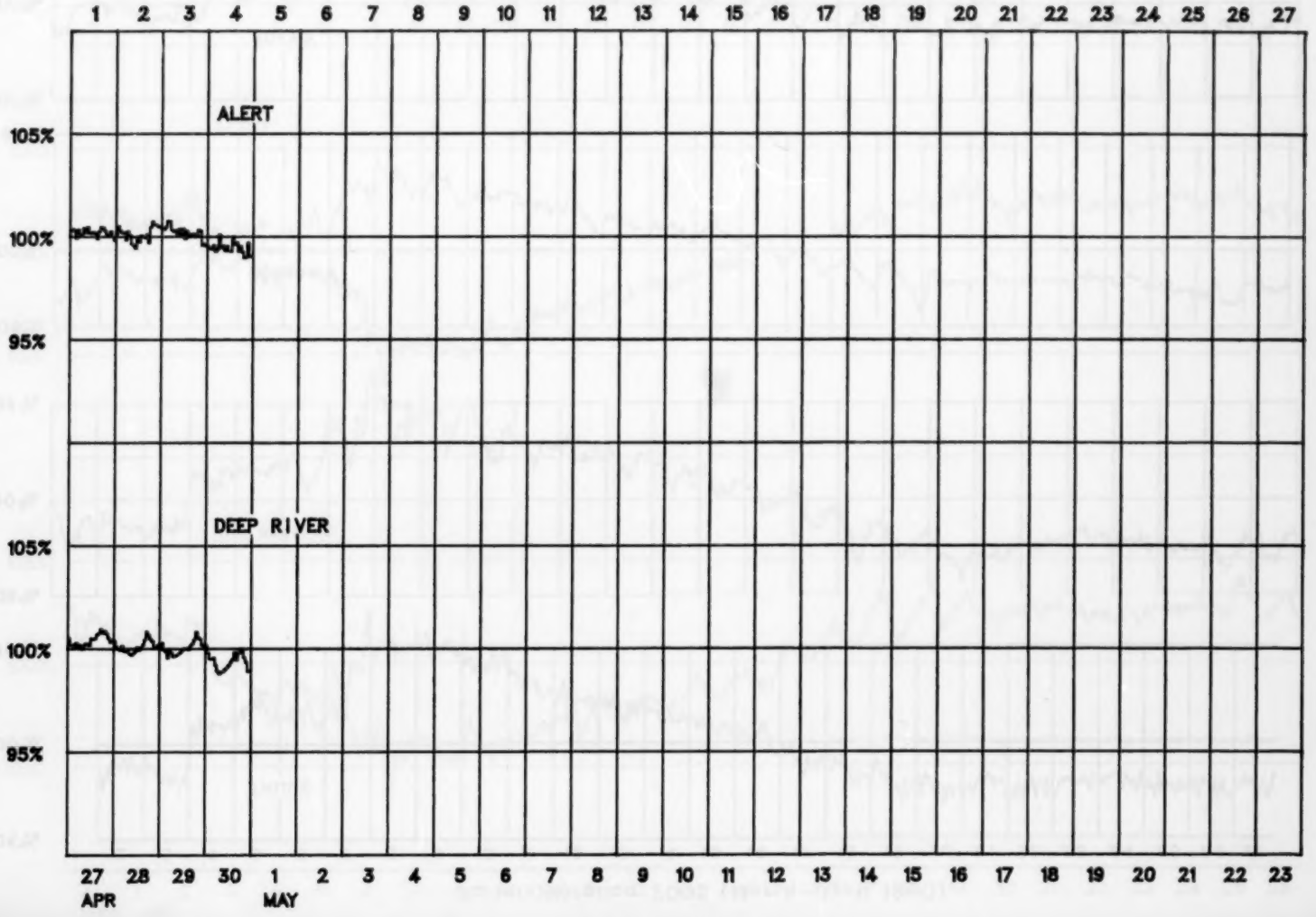
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 2005 (March–April 1980)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2006 (April 1980–May 1980)

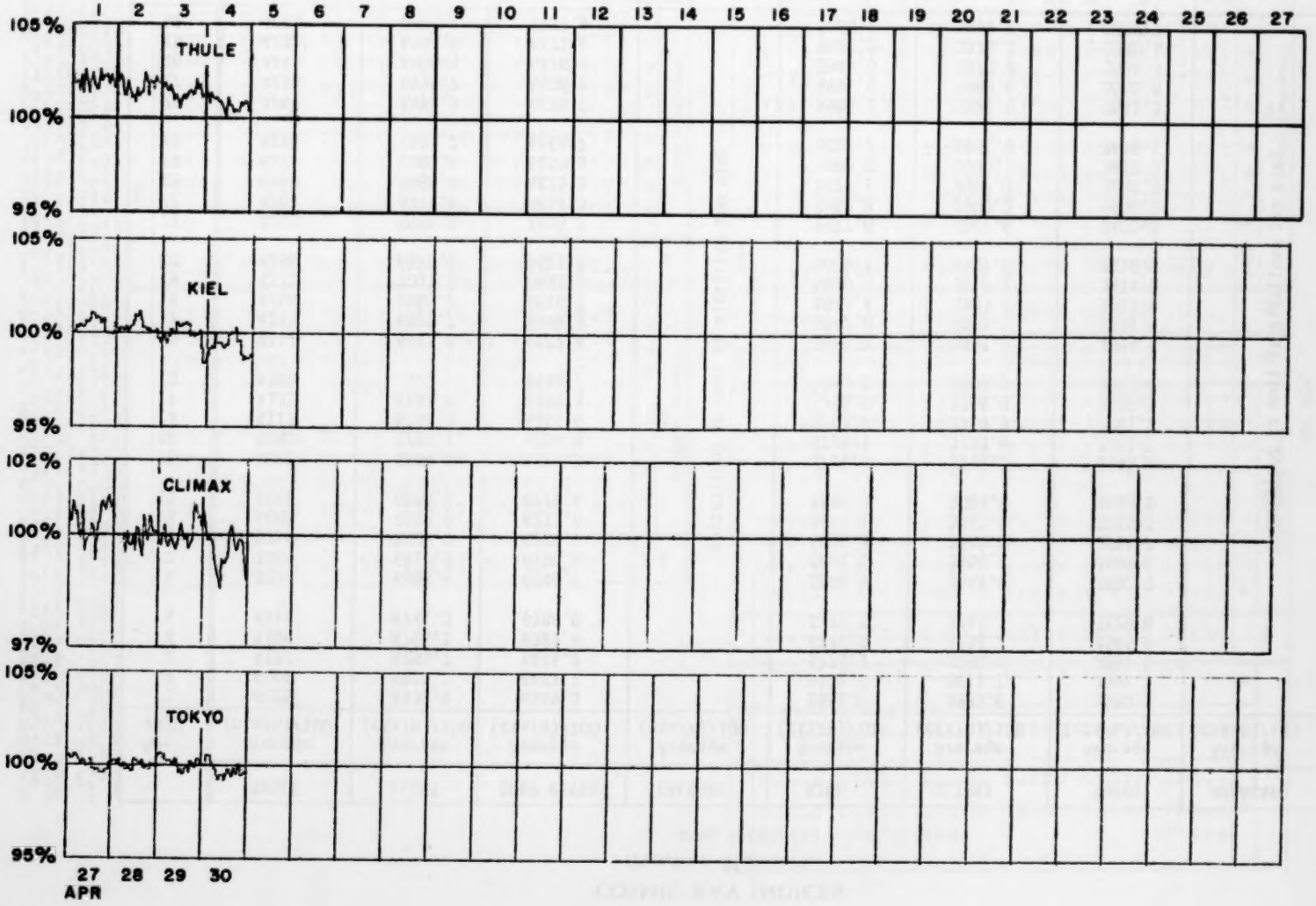


COSMIC RAY INDICES
(Neutron Monitors)

APR MAY

COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 2006 (April 1980)



COSMIC RAY INDICES

(Neutron Monitors)

APRIL 1980

Apr 1980	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	CALGARY Average (cts/h)/100	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/100	HUANCAYO Average (cts/h)/100
1	4225	6932.9	6549.3		5922.6	3883.6	3580.8	
2	4244	6975.7	6577.7		5922.7	3911.7	3592.3	
3	4137	6796.7	6446.2		5773.3	3798.0	3561.9	
4	4106	6765.1	6381.6		5748.5	3758.2	3545.5	
5	4115	6751.3	6388.0		5737.7	3745.1	3529.6	
6	4039	6595.6	6246.7		5609.8	3654.0	3487.9	
7	3964	6517.3	6190.6		5601.5	3606.0	3507.2	
8	3968	6506.8	6202.1		5596.4	3632.5	3510.7	
9	4002	6552.8	6213.0		5651.1	3652.5	3515.5	
10	4048	6626.5	6272.4		5690.3	3683.9	3533.0	
11	4081	6664.6	6315.7		5701.3	3716.1	3542.8	
12	4095	6703.1	6334.8		5728.1	3733.6	3551.7	
13	4117	6738.3	6366.6		5763.7	3758.9	3541.2	
14	4139	6783.8	6399.3		5796.6	3765.0	3555.3	
15	4168	---	6449.7		5840.0	3806.9	3578.4	
16	4213	6895.2 (6)	6527.6		5882.0	3847.2	3595.5	
17	4240	6929.7	6598.3		5947.0	3881.1	3611.5	
18	4266	6983.2	6615.3		5973.4	3903.4	3613.9	
19	4275	7011.0	6633.5		6020.3	3912.1	3614.0	
20	4268	6979.2	6621.8		6009.7	3907.6	3610.9	
21	4278	6998.5	6639.2		5977.8	3907.6	3603.8	
22	4264	6979.8	6614.3		5952.8	3902.3	3606.9	
23	4260	6988.2	6625.3		5972.1	3907.8	3604.3	
24	4273	7003.4	6640.9		5988.8	3933.1	3610.5	
25	4278	7003.2	6662.7		6002.7	3951.0	3616.4	
26	4269	6962.0	6635.0		5985.3	3925.9	3611.3	
27	4258	6935.7	6596.2		5951.9	3889.6	3588.6	
28	4245	6930.4	6576.3		5944.0	3873.9	3586.3	
29	4232	6934.9	6571.8		5922.2	3875.8	3590.0	
30	4207	6882.2	6527.9		5888.1	3859.7	3577.7	
MEAN	4176	6838.9	6480.7		5850.1	3819.6	3572.5	

Data not available at time of publication.

Data not available at time of publication.

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

GEOMAGNETIC ACTIVITY INDICES

APRIL 1980

Day	Three-Hourly Indices Kp									Ap	Cp	Three-Hourly Indices Km								Am	aa			
		1	2	3	4	5	6	7	8	Sum			1	2	3	4	5	6	7	8		N	S	M
1	Q2	2	1-	1-	0+	1+	1+	1	0	7+	4	0.1	2-	0+	1-	0	2-	1+	1	0+	6	8	9	6 10 CK
2	Q1	1-	1-	0+	1-	1-	1-	0+	2-	6-	3	0.1	0+	0+	0	0+	0+	0+	0+	1+	3	5	3	4 5 CC
3		1+	3-	2-	2+	2-	2+	2	1-	15-	7	0.4	1+	2+	1+	2	1+	2+	2	1-	12	12	12	12 12 CC
4		0+	1+	3	3	3-	3+	3	1	18-	11	0.6	0+	1+	3-	3-	2	3-	2+	1-	16	16	19	15 20 K
5		1	2-	1	1	2+	3+	2	1-	13	7	0.3	1	1+	1-	1-	2	3+	2-	1	11	11	7	4 14 C
6	D3	0+	2+	1+	5-	5	5	5+	3+	27+	28	1.2	0+	2	1+	4-	4-	4	4	3+	34	47	35	21 62
7		3+	3-	3+	2-	3-	3-	5-	4	25	18	1.0	3-	3-	3	2-	3-	2-	4	4-	27	41	24	24 41
8		3+	4-	3-	4	4	3-	2-	3-	25-	17	0.9	3	3+	3-	3	4-	2+	1+	3-	28	27	38	32 32
9		3	1+	1-	5-	4	3+	2-	1+	26	20	1.0	3-	4	4-	5-	4	3	1+	2-	38	33	37	48 23
10	D4	4	5	4	5-	3-	2+	2	2+	27	22	1.1	3+	4	4-	4	3-	2	2-	3-	32	34	23	41 16
11	D1	3	3-	4+	3	3	4+	6-	5	31	30	1.3	3-	3-	4	3	2+	4-	5	4+	45	48	42	37 53
12	D2	5	4-	3	3+	3+	4+	3+	5+	31+	28	1.2	4	3+	3-	3	3	3+	3-	5-	39	48	32	34 47
13		5-	3+	4-	3	3-	3+	3-	2-	25	18	1.0	4-	3	3	3-	2	3-	3-	1+	26	27	25	31 23
14		1	2	2-	0+	1+	3-	3	4	16	10	0.5	1-	1+	1	0+	1+	2	3-	3+	14	18	16	9 26
15	D5	5-	4-	3+	2+	2+	3+	4-	4	27+	20	1.0	4	3	3+	2-	2-	3	3+	4-	33	40	23	28 35
16		3	3	3-	1+	2+	3	2	3	20+	12	0.7	3-	3-	3-	2-	2	3-	2	3+	21	23	19	18 25
17		4-	4	2	1-	2	2+	2+	2	19	11	0.7	3	3	2-	1-	1+	2	2	2	16	20	9	18 12
18	Q3	1	2	1-	1	1	1-	1-	2-	9-	4	0.1	1-	2	1-	1+	0+	0+	0+	1+	6	8	4	7 5 CC
19	Q5	1	0+	1	1	1+	2-	2-	2-	10-	5	0.2	0+	0+	1	1	1	1+	1+	2-	7	9	4	5 9 CC
20	Q8	2+	2	1-	1	1+	1	2	2-	12	6	0.3	2+	2-	0+	1	1+	1-	2	2	10	13	7	11 10 CC
21	Q4	2-	2-	1	1	1-	1	1+	1+	10-	5	0.2	1+	1	1-	1	1-	1-	1+	1	6	10	4	7 7 CC
22		3+	3-	1	1+	3-	2	2-	2-	16+	9	0.5	3	3-	1	1+	2	2-	1+	2-	14	16	12	15 14 K
23		3-	2+	1-	1	2-	2-	1-	2	13-	6	0.3	3-	2	1	1-	2-	2-	1-	2-	11	15	7	10 12 CC
24		3-	3-	1	1	1	2	1	2	13+	7	0.3	3-	2	1-	0+	1-	2+	1+	2-	11	17	8	10 15 K
25		3-	2+	2	3-	3+	2-	1-	1	16+	9	0.5	2+	3-	2	3	3	2-	1-	1-	17	18	16	22 13
26	Q7	1-	2	1+	0+	2	1+	1	1+	10	5	0.2	1-	2+	2-	0+	2-	1	1+	1+	9	11	9	9 12 CC
27	Q8	0+	1+	0+	1	2-	1+	1-	3-	9+	5	0.2	0+	1+	1-	1-	1+	1+	1	2+	8	11	8	7 13 CC
28	Q6	2-	1	0+	1+	2-	2	1-	1-	9+	4	0.2	1+	1+	0+	1+	2-	1+	0+	1-	8	11	5	6 11 CC
29	Q9	1+	2-	2-	1+	2	2-	1	1+	12	6	0.2	1+	1+	2-	1+	1+	1	1	1+	9	11	7	9 9 CC
30		2-	2+	1	3-	3	2+	2-	2-	15+	8	0.5	1+	2	1	2+	3-	2	2-	2-	13	16	11	11 15 CC
									Mean	11	0.56									17.7	20.8	15.9	18.6

Day	Three-Hourly Indices Kn								An	Three-Hourly Indices Ks								As
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	
1	2-	0+	1-	0+	1+	1+	1	0	6	2	0	1-	0	2	1+	1	0+	7
2	1-	1-	0	0+	0+	1-	1-	2-	4	0+	0+	0	0	1-	0+	0+	1+	3
3	1+	2+	1+	2+	2-	2+	2+	1	14	1+	2+	1	1+	1	2	2	0+	11
4	0+	1	3-	3	2+	3	2+	1	17	0+	1+	2+	3-	2-	3-	3-	1-	15
5	1	2-	1-	1+	2+	3+	2	1+	14	1	1+	1-	0	1+	3	1+	1-	9
6	0+	2	1+	4-	4	5-	4+	4-	40	1-	2+	1	3+	3+	4-	4-	3+	29
7	3	3-	3+	2-	3	2	4	4-	30	3-	2+	3-	1+	2	2-	4-	4-	25
8	3	3+	3-	3	4-	3-	2-	3	29	3	4-	3-	3	4-	2+	1+	3-	27
9	3-	4	3+	5-	4+	3	2-	2-	39	3-	4	4-	4+	4	3	1	2-	36
10	3+	4	4-	4+	3-	2+	2	3-	37	3	4-	3+	4-	2+	1+	1+	2+	27
11	3-	3-	4	3	2+	4	2-	4	44	3-	2+	4	3+	3-	3+	5+	4+	47
12	4	3+	3-	3-	3	4-	3	5-	41	4	3+	3-	3	3	3+	3-	4+	37
13	4	3	3	3-	3-	3	3-	1+	28	3+	3+	3	2+	1+	3-	3-	1+	24
14	1-	2-	1+	1-	1+	2+	3-	3+	15	1-	1	1	0	1+	2	3-	3+	13
15	4	3	4-	2+	2	3	3+	4-	35	4	3	3	1+	1	3	3+	4-	30
16	3-	3-	3-	2-	2	3-	2	3	20	3-	3-	3-	2-	2	3-	2-	3+	21
17	3	3	2	1	2-	2+	2+	2	17	3+	3	2-	0+	1	2-	2	2	16
18	1-	2	1-	1+	0+	1-	1-	2-	7	1-	2	1	1+	0	0	0	1+	5
19	1-	1-	1+	1+	1	2-	2-	2-	9	0+	0+	1-	1-	1-	1	1	2-	5
20	2	2-	1-	1+	1+	1	2	2+	11	2+	1+	0	1-	1+	0+	2-	1+	8
21	2-	1+	1	1+	1	1	1+	1	8	1+	1	0+	1-	0+	0+	1	1-	5
22	3	2+	1+	2	2+	2	1+	2-	16	3-	3	1-	1	1+	1	1	1+	12
23	2+	2	1+	1+	2	2+	1+	2	14	3-	2	0+	0	1	1-	0	2-	8
24	2+	2-	1-	1-	1	3-	2-	2-	11	3-	2+	0+	0	1-	2+	1-	1+	10
25	3-	3-	2	3+	3	2	1	1+	19	2	3-	2-	3	3	1	0+	0	15
26	1	2+	2-	1-	2	1+	2-	2	11	0+	2+	2-	0	2-	0+	1-	1	9
27	1-	1+	1-	1	2-	2	1+	3	11	0+	1+	1-	0+	1-	1-	0+	2-	6
28	1+	1+	1	1+	2-	2-	1-	1	9	1+	1+	0	1+	1+	1	0	0+	6
29	1+	2-	2	2-	2-	1+	2-	1+	11	1+	1+	1+	1	1-	0+	0+	1-	6
30	1+	2+	1+	3-	3-	2+	2	2	16	1	2	0+	2	2+	1+	1+	1+	11
								Mean	19.5									16.1

Quiet days (Q) and disturbed days (D), geomagnetic planetary three-hour-range indices (Kp) (integers alone are equivalent to those normally given with a small zero), magnetic character figures (Cp), and average amplitude (Ap) (unit 2 nT) prepared by Geophysikalisches Institut at the University of Göttingen, F.R. of Germany for the International Service of Geomagnetic Indices. Ten most quiet days [Q1-Q0(10)] and five most disturbed days [D1-D5] are ordered from most quiet or disturbed, respectively. A or K means "not really quiet" (A = "Ap>6", K = "Ap≤6 but one Kp≥3 or two Kp values≥3-"). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic three-hourly indices Km, Kn, Ks, daily mean values Am, An, As (unit 1nT), and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices daily north (N) and south (S) values, and half-daily antipodal mean (M) values are given. Quiet 24-hour and 48-hour intervals centered on 1200 UT are indicated for really quiet as C and for quiet but with some slightly disturbed three-hour intervals as K. The first hundred years series of aa is in IAGA Bulletin No.33, and complementary data are in IAGA Bulletin No.39.

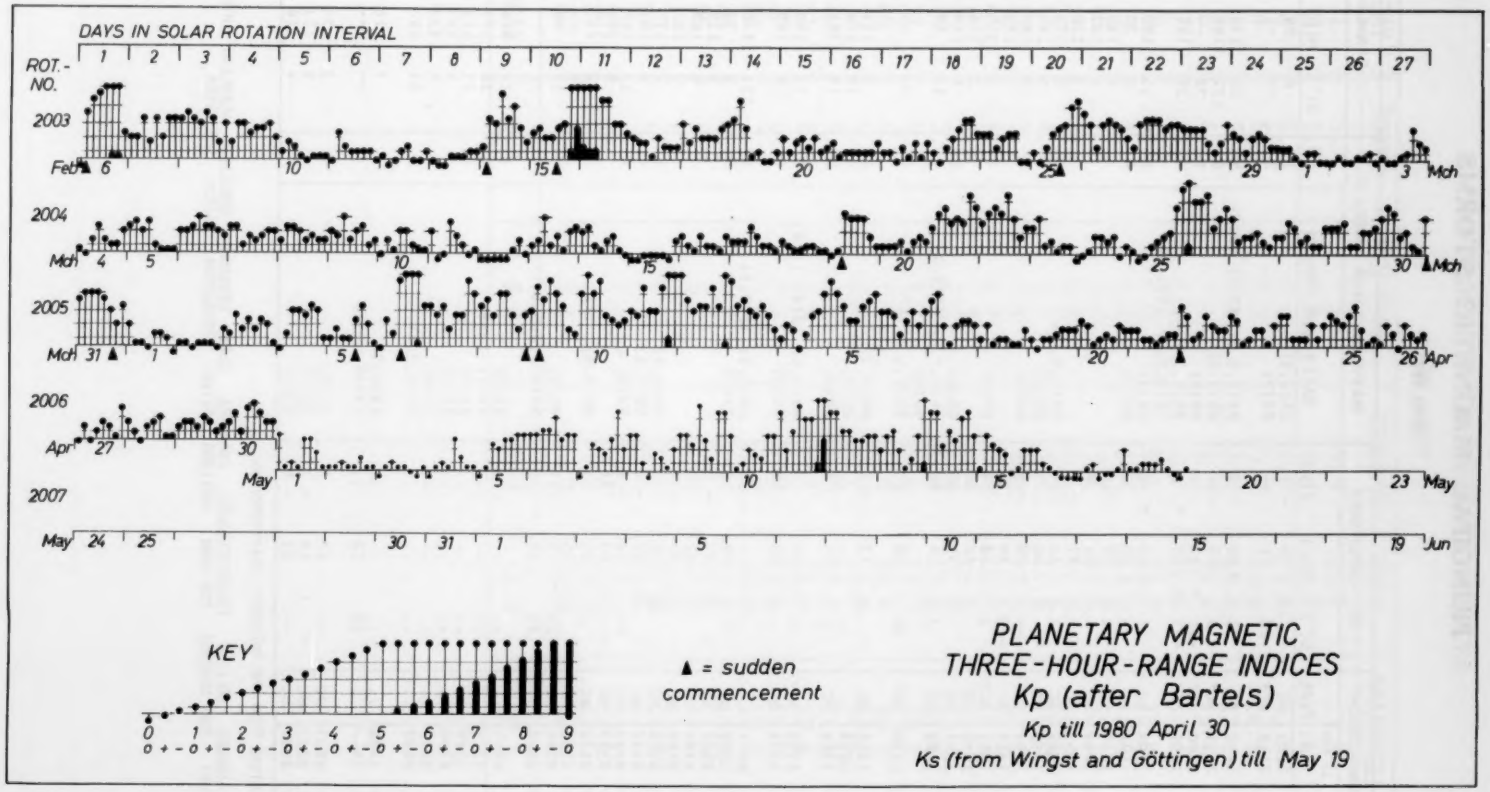
For less than 24-hour coverage, parentheses enclose the number of hours for which data are available; for example, Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

DAILY AVERAGE INDICES Ap

DAY	1979 MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1980 JAN	FEB	MAR	APR
1	18	5	7	16	10	10	16	9	24	10	3	4
2	14	6	4	11	5	7	12	11	12	9	3	3
3	6	4	14	10	9	13	10	9	18	3	5	7
4	7	6	9	16	10	9	10	16	16	4	5	11
5	7	4	9	8	17	6	2	7	12	3	7	7
6	6	34	22	18	15	36	3	6	8	33	9	28
7	11	26	27	10	6	32	12	4	5	12	7	18
8	8	14	9	7	6	37	14	10	6	17	6	17
9	14	15	6	6	5	23	19	7	3	11	7	20
10	7	14	6	7	9	17	6	5	3	4	4	22
11	19	10	4	10	14	10	10	5	11	4	4	30
12	9	7	11	18	8	8	7	4	4	3	1	28
13	8	8	16	76	8	12	35	4	23	2	7	18
14	11	7	14	7	10	6	13	4	9	18	5	10
15	11	10	15	4	8	8	3	9	6	33	2	20
16	5	16	11	5	14	8	12	10	9	40	4	12
17	3	14	14	8	11	4	8	13	13	6	5	11
18	11	6	15	11	64	3	4	7	4	10	4	4
19	24	6	11	35	6	5	7	6	4	10	10	5
20	13	8	18	42	22	6	10	4	6	6	4	6
21	13	15	9	22	23	10	6	4	6	4	18	5
22	36	24	6	12	6	14	2	15	5	4	16	9
23	11	19	6	5	7	6	4	3	5	9	6	6
24	27	10	5	13	15	12	24	7	5	6	4	7
25	34	9	3	22	19	14	15	2	7	13	6	9
26	25	20	17	15	19	8	4	10	6	14	30	5
27	17	10	23	12	15	6	4	12	24	14	7	5
28	11	4	10	10	16	9	2	16	27	10	7	4
29	30	7	24	77	15	11	4	32	26	7	8	6
30	10	10	9	15	18	5	15	20	10		11	8
31	6		3	12		5		9	5		21	
MEAN	14	12	12	18	14	12	10	9	10	11	8	11

MEAN	14	12	12	18	14	12	10	9	10	11	8	11

GEOMAGNETIC ACTIVITY INDICES



PRINCIPAL MAGNETIC STORMS

APRIL 1980

OBS. 3 letter code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	COMMENCEMENT hr min (UT)	TYPE	SC - AMPLITUDES D(')	SC - AMPLITUDES H(γ)	SC - AMPLITUDES Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	RANGES H(γ)	RANGES Z(γ)	UT END DAY	UT END HOUR
HYB	07.6N	02	2113	SC	- .2	9	- 1	03(2,6)	3	6	88	41	03	22
KGL	56.5S	02	2110	SC*	12	11	--	03(2)	2	--	--	--	03	03
FRD	49.6N	06	1058	SC	4	23	- 4	06(5,6,7) 07(7) 09(4)	5	25	130	92	13	21
COL	64.6N	06	1059	SC*	- 9	-97	-39	06(5,6)	6	172	1160	750	07	03
SIT	60.0N	06	1100	SC*	-11 *	41	9	09(5)	7	70	--	460	10	12
WIT	54.2N	06	1059	SC*	- 5 *	80	* 3	06(4,5,6,7) 10(2,3,4) 12(1,8)	5	20	115	90	07	01
SJG	29.9N	06	1158	SC	1	12	* 3	06(4)	5	12	100	37	07	03
HON	21.1N	06	1100	SC	--	22	9	06(7)	4	6	37	21	07	04
JAI	17.3N	06	1059	SC	- 1.6	37	-11			6	126	31	07	03
SHL	14.6N	06	1059	SC	- .3	31	8			5	102	26	07	03
UJJ	13.5N	06	1059	SC	- .9	41	- 9			4	136	29	07	03
ABG	09.5N	06	1059	SC	- 1.3	32	-12	06(5,6,7)	5	5	129	29	07	03
HYB	07.6N	06	1059	SC	- .8	36	- 3	06(6)	6	5	145	24	07	10
GUA	04.0N	06	1059	SC	--	29	- 9	06(8)	5	10	100	30	07	10
ANN	01.5N	06	1059	SC	- 2.1	49	25			4	161	37	07	03
HUA	00.6S	06	1058	SC*	3	60	4	06(6)	7	6	355	45	07	03
TRD	01.1S	06	1059	SC	.3	50	58			2	176	94	07	03
PMG	18.6S	06	1059	SC	.5	31	26	06(6)	5	8	110	50	08	18
GNA	43.2S	06	1100	SC	2.4	29	16	06(6,7,8) 07(7,8) 08(5)	4	14	60	100	08	18
KGL	56.5S	06	1100	SC*	49	58	23	06(4,5,6,7)	3	--	--	--	07	09
HYB	07.6N	07	1214	SC	- .2	12	- 1	08(2,3)	4	7	124	26	08	18
GUA	04.0N	07	2020	..	..	..	..	09(2)	5	10	110	40	09	03
HUA	00.6S	07	1214	SC	1	13	3	08(5)	5	10	301	53	08	18
NEW	55.1N	08	2336	SC*	3	35	3	09(4,5) 10(4) 11(6)	5	28	185	232	13	24
PMG	18.6S	08	2331	SC	.3	20	18	09(4)	6	10	160	80	13	20
COL	64.6N	09	05--	..	..	..	..	09(3,5) 10(3,4)	6	281	1430	150	10	13
HON	21.1N	09	0509	SC	--	14	5	09(5)	5	3	73	26	10	15
JAI	17.3N	09	0508	SC	- .3	23	- 3			9	139	66	12	18
SHL	14.6N	09	0508	SC	.2	22	3			9	168	66	12	18
UJJ	13.5N	09	0508	SC	- .1	28	- 7			8	157	58	12	18
ABG	09.5N	09	0508	SC	- .5	25	- 9	09(2,4)	6	7	179	54	12	18
HYB	07.6N	09	0508	SC	- .4	29	- 5	09(4,5)	6	4	193	37	10	20
GUA	04.0N	09	0508	SC	--	24	- 6	09(4)	6	10	180	30	10	15
ANN	01.5N	09	0508	SC	- 1.3	63	14			6	298	89	12	18
HUA	00.6S	09	0508	SC	1	24	7	09(5,6)	5	12	247	49	09	20
TRD	01.1S	09	0508	SC	.1	64	--			5	--	--	12	18
GNA	43.2S	09	0508	SC*	-22 *	5	-11	* 09(4)	5	17	80	110	13	09
KGL	56.5S	09	0508	SC*	33	-16	--	09(2,3,4,5,6)	3	--	--	--	09	18
COL	64.6N	11	06--	..	..	..	..	11(4)	6	137	960	470	13	11
WIT	54.2N	11	13--	..	..	..	..	11(7) 12(8)	6	30	170	80	13	04
SJG	29.9N	11	1500	..	..	..	..	11(7)	6	11	112	33	12	07
HYB	07.6N	11	0200	..	..	..	..	11(7)	5	8	183	44	13	16
HUA	00.6S	11	0217	..	..	..	..	11(6)	6	6	322	16	12	07
HER	33.7S	11	0600	..	..	..	..	11(3,7,8)	5	21	105	105	12	03
HYB	07.6N	14	1400	..	..	..	..	15(6,7)	4	7	118	45	16	19
KGL	56.5S	14	15--	..	25	12	..	14(8) 15(1)	4	--	--	--	15	08
HON	21.1N	22	0037	SC	--	17	5	23(1)	4	2	73	11	23	08
HYB	07.6N	22	0037	SC	- .1	19	- 1	22(2)	4	5	113	41	22	20
GUA	04.0N	22	0037	SC*	--	31	- 8	22(1)	4	--	110	20	22	08

Reports were received from the following observatories:

ALIBAG ANNAMALAINAGAR COLLEGE FREDERICKSBURG GNANGARA GUAM HERMANUS HONOLULU HUANCAYO HYDERABAD JAIPUR KERGUELEN NEWPORT PORT MORESBY SAN JUAN SHILLONG SITKA TRIVANDRUM UJJAIN WITTEVEEN

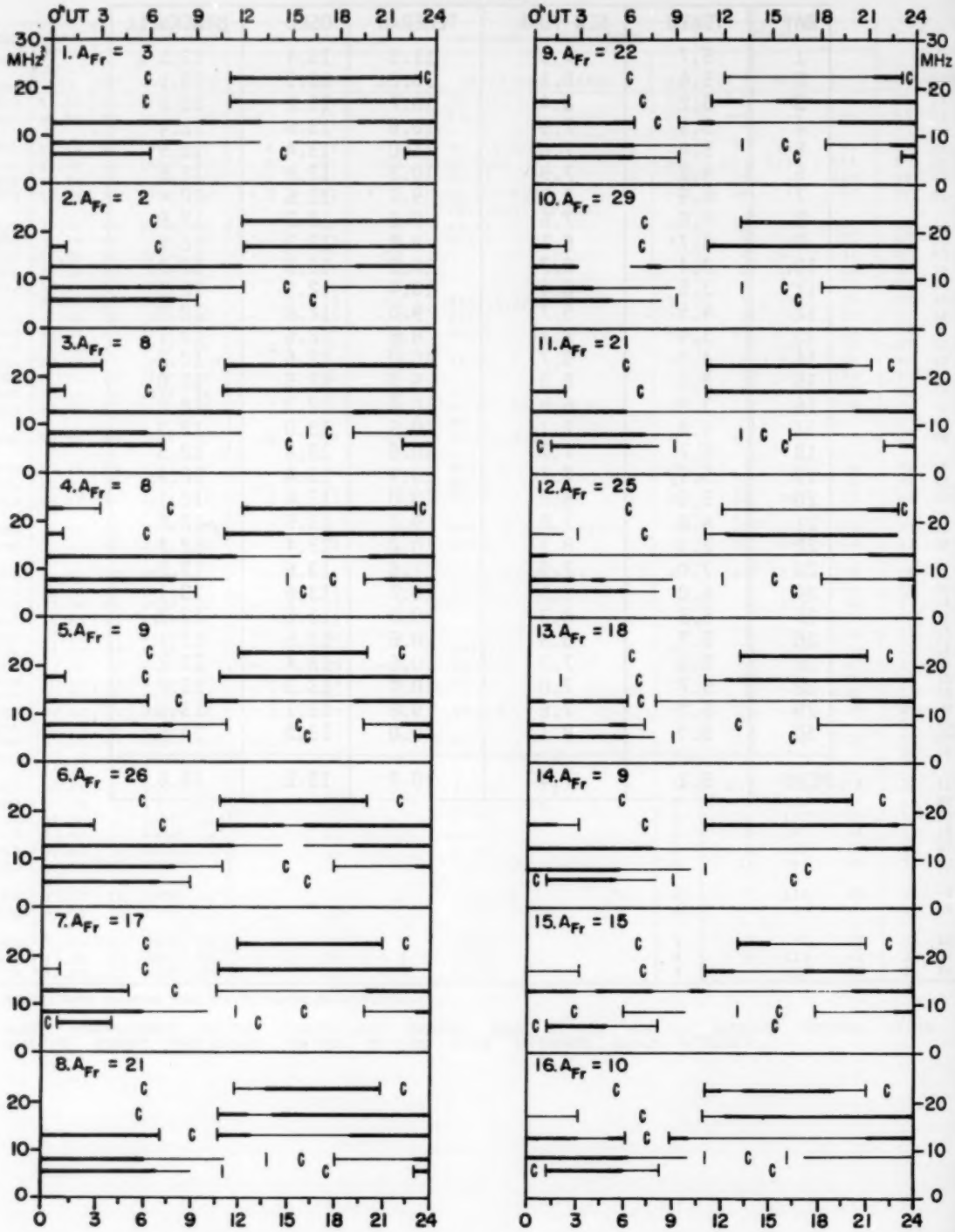
RADIO PROPAGATION QUALITY INDICES

APRIL 1980

DAY	TOKYO	NEW YORK	TEHERAN	OSLO	BRACKNELL
1	5.7	7.9	11.3	13.4	13.5
2	5.6	8.1	10.7	13.5	13.1
3	5.2	8.4	10.7	13.2	13.0
4	5.1	7.9	10.6	13.6	12.4
5	5.0	7.6	11.0	13.4	12.5
6	4.2	7.9	10.3	12.8	12.5
7	4.9	7.2	9.7	12.6	12.4
8	4.8	7.6	9.1	13.2	12.8
9	4.7	6.1	8.4	13.3	12.6
10	3.4	6.7	10.2	12.8	12.3
11	3.5	6.4	10.4	12.9	12.3
12	4.5	5.7	9.6	12.8	12.0
13	3.4	7.1	8.8	12.6	12.1
14	4.2	6.7	10.0	12.6	12.2
15	3.8	5.3	9.7	12.5	12.0
16	3.8	6.8	10.4	12.3	12.2
17	5.4	7.1	10.5	13.0	12.3
18	5.7	7.7	10.8	13.4	12.3
19	5.9	7.7	10.9	13.4	12.3
20	5.5	6.2	10.0	13.4	12.1
21	6.8	7.8	9.1	13.5	12.4
22	6.3	8.3	10.2	13.4	12.3
23	7.0	7.9	11.6	13.6	13.3
24	6.0	8.3	10.7	13.6	13.1
25	5.8	8.3	10.8	13.8	13.2
26	5.7	8.3	10.6	13.5	13.1
27	5.3	7.3	10.6	13.4	13.2
28	5.7	7.0	10.4	13.3	13.2
29	6.2	7.6	9.8	13.1	13.0
30	5.0	8.1	10.0	13.3	13.5
MEAN	5.1	7.4	10.2	13.2	12.6

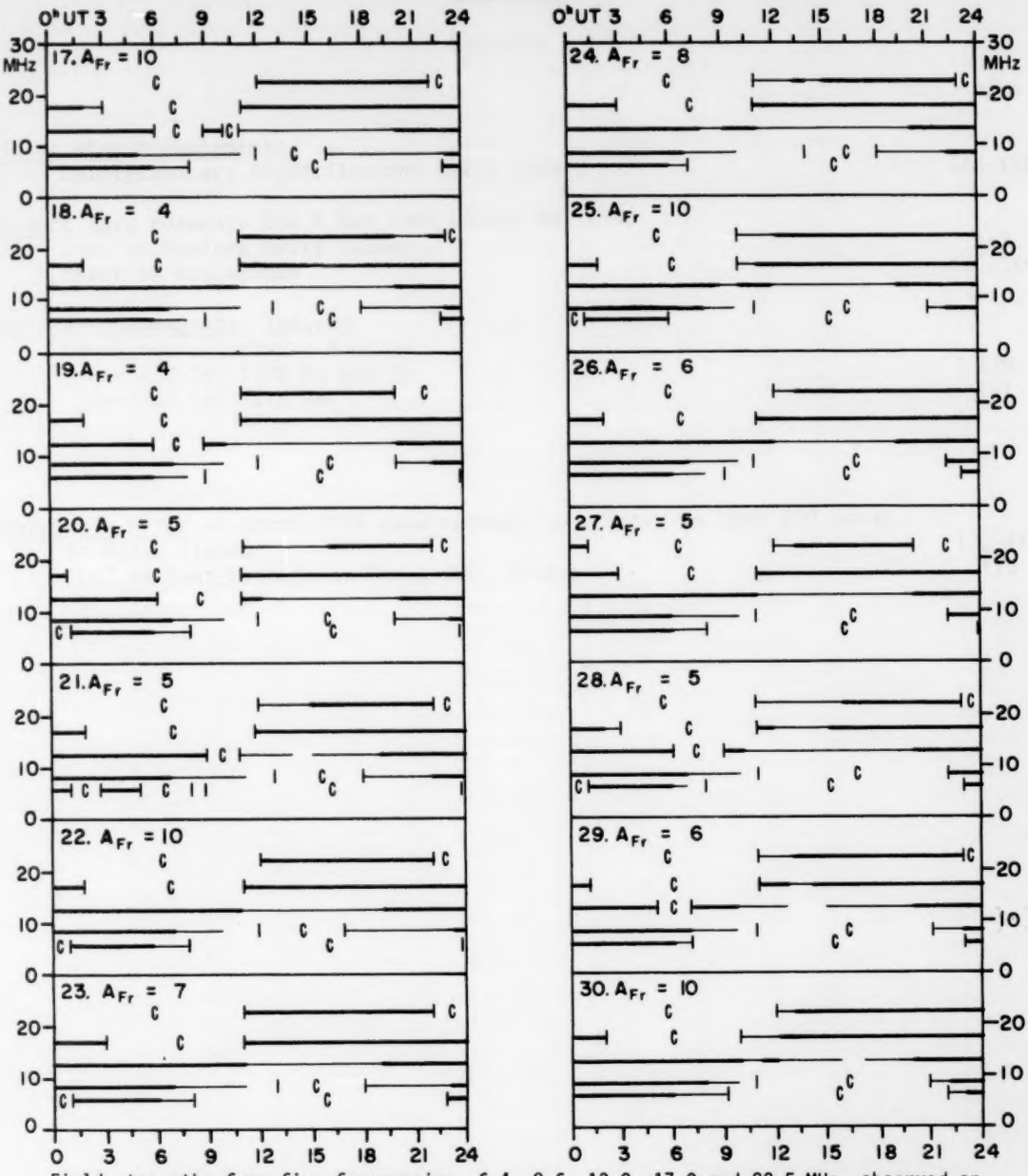
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

APRIL 1980



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

APRIL 1980



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Lüchow -New York circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

SGD 430 Part I (Prompt)

LATE DATA

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SOLAR WIND

Interplanetary Scintillations

APRIL 1980

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
800331	91	0	330	40	371	25	2	3C147	77	1	0.98	-16	-1.40	1693.29
	91	1	385	17	383	17	4	3C144	73	-8	0.96	-18	-1.58	1693.33
	91	2	410	9	429	9	3	3C161	87	-15	1.03	-15	-1.05	1693.32
	91	4	422	87	390	52	2	3C144+	73	-8	0.96	-17	-1.53	1693.35
	91	19	261	49	237	39	2	3C459	22	21	0.37	64	0.37	1693.20
	91	21	355	11	375	39	4	3C48	31	31	0.52	-47	-6.15	1693.51
	91	22	415	18	437	44	2	3C144-	72	-8	0.95	-18	-1.60	1693.37
800401	92	1	415	12	413	12	4	3C144	72	-8	0.95	-18	-1.60	1693.38
	92	2	351	10	301	92	3	3C161	86	-15	1.02	-14	-0.98	1693.33
	92	3	412	81	430	60	2	3C144+	72	-8	0.95	-18	-1.64	1693.38
	92	18	271	64	336	13	2	3C459	23	20	0.39	63	0.56	1693.24
	92	21	354	9	363	36	3	3C48	30	32	0.50	-47	-6.24	1693.55
	92	22	904	80	950	45	2	3C144-	71	-8	0.95	-18	-1.53	1693.50
800402	93	1	518	15	653	25	3	3C144	71	-8	0.95	-18	-1.62	1693.45
	93	2	403	15	457	10	3	3C161	86	-15	1.02	-15	-1.06	1693.39
	93	3	566	25	424	32	2	3C144+	71	-8	0.95	-19	-1.62	1693.46
	93	3	566	25	424	32	2	3C144+	71	-8	0.95	-19	-1.62	1693.46
	93	17	509	30	483	198	2	3C446	37	4	0.60	51	2.41	1693.32
	93	19	417	97	588	201	2	3C459	23	20	0.39	62	1.98	1693.31
	93	21	368	25	366	15	3	3C48	30	32	0.50	-48	-6.19	1693.59
800403	94	1	398	16	406	89	3	3C144	70	-8	0.94	-18	-1.72	1693.45
	94	3	466	29	499	166	2	3C196	99	0	1.09	-14	-0.74	1693.44
	94	6	430	15	436	43	2	3C237	137	-8	1.24	-9	0.29	1693.39
	94	18	436	46	340	49	2	3C459	24	19	0.41	63	2.17	1693.35
	94	20	474	61	279	147	2	3C48	29	34	0.48	-48	-5.67	1693.65
800404	95	0	345	24	430	95	3	3C144	69	-8	0.93	-20	-1.91	1693.46
	95	2	325	57	236	34	2	3C161	84	-15	1.01	-14	-1.03	1693.42
	95	18	465	132	656	73	2	3C459	25	18	0.42	62	2.36	1693.39
	95	22	357	49	323	17	2	3C144-	69	-8	0.93	-22	-2.03	1693.51
800405	96	1	291	17	361	20	3	3C144	68	-8	0.93	-21	-2.08	1693.47
800406	97	0	475	97	621	305	2	3C147	72	1	0.95	-16	-1.42	1693.57
	97	1	397	16	461	41	2	3C144	67	-8	0.92	-21	-2.04	1693.57
	97	2	351	15	241	10	2	3C161	82	-15	1.00	-14	-1.06	1693.52
800407	98	1	446	27	457	28	3	3C144	66	-8	0.91	-24	-2.20	1693.63
	98	2	517	44	528	45	2	3C161	81	-15	1.00	-14	-1.10	1693.62
800408	99	0	592	98	526	57	2	3C144	66	-8	0.91	-24	-2.16	1693.70
	99	2	307	25	411	14	2	3C161	80	-15	0.99	-14	-1.14	1693.56
	99	3	387	52	431	22	2	3C144+	65	-8	0.91	-23	-2.23	1693.65
	99	5	398	64	441	38	2	3C237	132	-8	1.22	-9	0.33	1693.57
	99	20	500	66	577	18	2	3C48	26	41	0.44	-47	-5.69	1693.84
	99	22	493	22	492	22	2	3C144-	65	-8	0.91	-26	-2.33	1693.72
	99	23	468	28	482	27	3	3C147	70	2	0.94	-18	-1.63	1693.69
800409	100	0	481	17	484	17	3	3C144	65	-8	0.91	-26	-2.35	1693.72
	100	3	429	20	549	68	2	3C196	94	1	1.06	-14	-0.85	1693.65
	100	3	461	15	466	15	2	3C144+	64	-8	0.90	-25	-2.37	1693.72
	100	17	385	19	411	76	2	3C446	44	3	0.69	45	1.91	1693.55
	100	18	417	38	458	19	2	3C459	30	15	0.50	57	2.05	1693.56
	100	20	430	12	458	13	3	3C48	26	42	0.44	-47	-5.99	1693.87
	100	22	370	54	406	30	2	3C144-	64	-8	0.90	-26	-2.53	1693.72
	100	23	478	56	460	17	2	3C147	69	3	0.93	-18	-1.70	1693.73
800410	101	0	309	12	355	14	3	3C144	64	-8	0.90	-27	-2.69	1693.69
	101	2	412	23	406	10	3	3C161	79	-15	0.99	-15	-1.26	1693.69
	101	2	334	41	332	17	2	3C196	93	1	1.06	-14	-0.80	1693.64
	101	20	419	12	467	13	3	3C48	25	44	0.42	-46	-6.11	1693.90
800411	102	0	280	17	326	11	2	3C144	63	-8	0.89	-27	-2.78	1693.71
	102	2	318	17	352	26	2	3C161	78	-15	0.98	-14	-1.23	1693.68
	102	17	419	35	318	17	2	3C459	32	13	0.53	55	2.07	1693.64
	102	20	554	48	515	21	2	3C48	24	46	0.41	-44	-5.33	1693.95
800416	107	1	379	79	391	182	2	3C161	74	-15	0.96	-15	-1.35	1693.90
	107	2	293	39	264	36	2	3C144+	58	-8	0.85	-32	-3.40	1693.93
	107	18	512	42	521	18	2	3C459	36	12	0.59	51	2.35	1693.84
	107	20	409	11	428	22	4	3C48	23	53	0.39	-39	-5.76	1694.11

SOLAR WIND

Interplanetary Scintillations

APRIL 1980

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
	107	21	352	40	363	36	2	3C144-	57	-8	0.84	-33	-3.39	1693.99
800417	108	0	265	23	267	23	3	3C144	57	-8	0.84	-33	-3.69	1693.95
	108	1	256	44	335	62	2	3C161	73	-15	0.96	-14	-1.43	1693.86
	108	18	445	71	393	15	2	3C459	37	11	0.60	51	2.18	1693.87
	108	20	450	22	493	28	4	3C48	22	55	0.37	-36	-5.35	1694.14
	108	21	345	17	338	16	3	3C144-	56	-8	0.83	-35	-3.58	1694.03
800418	109	0	309	14	330	15	4	3C144	56	-8	0.83	-34	-3.67	1694.02
	109	1	275	11	260	13	4	3C161	72	-16	0.95	-13	-1.39	1693.91
	109	17	529	144	500	192	2	3C446	53	2	0.80	36	2.01	1693.93
	109	18	369	16	333	100	2	3C459	38	11	0.62	51	1.85	1693.88
	109	20	423	17	428	12	4	3C48	22	57	0.37	-34	-5.38	1694.17
	109	21	278	16	293	17	3	3C144-	55	-8	0.82	-35	-3.89	1694.04
	109	23	377	16	353	23	2	3C147	61	7	0.87	-24	-2.51	1694.05
800419	110	0	323	34	295	31	3	3C144	55	-8	0.82	-36	-3.79	1694.07
	110	1	310	24	303	10	3	3C161	71	-16	0.95	-14	-1.46	1693.98
	110	16	392	58	355	66	2	3C446	54	2	0.81	36	1.77	1693.93
	110	17	286	17	327	24	2	3C459	39	11	0.63	49	1.30	1693.88
	110	19	369	18	456	97	2	3C48	22	58	0.37	-31	-5.57	1694.19
	110	21	324	15	341	20	3	3C144-	54	-8	0.81	-35	-3.77	1694.10
800420	111	0	291	34	344	57	3	3C144	54	-8	0.81	-37	-4.05	1694.09
	111	1	325	10	341	14	3	3C161	70	-16	0.94	-16	-1.56	1694.03
	111	2	303	17	274	24	3	3C144+	54	-8	0.81	-36	-3.94	1694.10
	111	5	346	33	314	44	2	3C237	121	-7	1.18	-12	0.00	1693.99
	111	18	292	11	323	46	3	3C459	40	10	0.64	48	1.36	1693.92
	111	20	406	75	382	15	3	3C48	22	59	0.37	-28	-5.04	1694.23
	111	21	359	21	335	20	3	3C144-	53	-8	0.80	-37	-3.90	1694.16
	111	23	333	26	307	21	2	3C147	60	8	0.87	-27	-2.86	1694.11
800421	112	0	307	13	322	54	2	3C144	53	-8	0.80	-36	-4.02	1694.14
	112	1	386	16	339	12	3	3C161	70	-17	0.94	-17	-1.64	1694.10
	112	2	336	19	377	52	2	3C144+	53	-8	0.80	-37	-3.95	1694.16
	112	4	332	14	414	73	2	3C222	113	-9	1.15	-13	-0.15	1694.02
	112	4	295	14	295	23	2	3C237	120	-7	1.18	-12	0.21	1693.98
	112	17	387	16	345	32	3	3C459	41	10	0.66	47	1.86	1694.00
	112	19	307	9	323	10	3	3C48	22	61	0.37	-24	-5.68	1694.23
	112	21	361	20	327	18	3	3C144-	52	-8	0.79	-38	-4.02	1694.20
	112	23	248	30	352	70	3	3C147	59	9	0.86	-28	-3.26	1694.09
800422	113	0	290	11	286	11	3	3C144	52	-8	0.79	-37	-4.22	1694.17
	113	1	320	6	315	12	3	3C161	69	-17	0.93	-18	-1.80	1694.10
	113	2	403	26	421	89	2	3C196	83	2	1.01	-15	-1.13	1694.13
	113	2	405	17	318	13	3	3C144+	52	-8	0.79	-37	-3.84	1694.23
	113	18	282	59	345	23	2	3C459	42	10	0.67	47	1.36	1693.99
	113	20	300	12	377	15	3	3C48	21	62	0.36	-19	-5.44	1694.26
	113	21	405	22	350	19	3	3C144-	51	-8	0.78	-39	-3.99	1694.26
	113	22	326	12	415	73	3	3C147	58	9	0.85	-28	-3.06	1694.19
800423	114	0	363	11	341	11	3	3C144	51	-8	0.78	-39	-4.14	1694.25
	114	1	358	17	319	8	2	3C161	68	-18	0.93	-17	-1.71	1694.16
	114	2	293	11	288	11	2	3C196	82	2	1.00	-16	-1.20	1694.10
	114	2	383	34	283	35	2	3C144+	51	-8	0.78	-39	-4.10	1694.26
	114	3	311	25	313	8	2	3C216	93	1	1.06	-15	-0.83	1694.11
	114	3	304	13	303	10	2	3C222	111	-8	1.14	-13	-0.14	1694.08
	114	4	319	8	341	41	2	3C237	118	-7	1.17	-13	0.00	1694.08
	114	8	293	35	304	24	2	3C295	115	7	1.16	-6	0.54	1694.05
	114	15	240	24	227	26	2	3C409	83	8	1.01	12	0.96	1693.99
	114	17	353	12	327	11	3	3C459	43	9	0.68	45	1.70	1694.06
	114	19	320	22	332	8	3	3C48	21	63	0.36	-16	-4.98	1694.29
	114	21	321	18	302	17	4	3C144-	50	-8	0.77	-39	-4.36	1694.27
	114	23	316	10	326	12	4	3C144	50	-8	0.77	-39	-4.37	1694.27
800424	115	1	364	11	331	22	3	3C161	67	-18	0.92	-19	-1.85	1694.21
	115	1	311	59	371	117	2	3C196	81	2	1.00	-14	-1.13	1694.15
	115	2	429	37	303	42	3	3C144+	50	-8	0.77	-40	-4.11	1694.32
	115	3	316	45	280	54	2	3C216	92	1	1.05	-14	-0.81	1694.15
	115	8	323	56	271	53	2	3C295	115	8	1.16	-5	0.53	1694.11
	115	16	299	25	242	13	2	3C446	59	1	0.86	31	1.43	1694.07

SOLAR WIND

Interplanetary Scintillations

APRIL 1980

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
	115	17	286	16	251	25	3	3C459	44	9	0.69	45	1.37	1694.06
	115	19	277	9	304	9	4	3C48	21	63	0.36	-10	-5.13	1694.30
	115	22	321	18	306	39	2	3C147	56	10	0.83	-30	-3.30	1694.27
	115	23	333	11	331	11	4	3C144	49	-8	0.75	-41	-4.53	1694.32
800425	116	1	290	8	311	23	3	3C161	66	-19	0.91	-19	-2.02	1694.20
	116	2	418	22	363	36	3	3C144+	49	-8	0.75	-41	-4.22	1694.36
	116	16	266	10	263	8	2	3C446	60	1	0.87	30	1.26	1694.08
	116	17	276	9	292	12	4	3C459	45	9	0.71	44	1.29	1694.09
	116	19	309	19	330	10	4	3C48	21	64	0.36	-6	-4.36	1694.33
	116	21	422	24	392	22	3	3C144-	48	-8	0.74	-42	-4.33	1694.39
	116	22	305	89	198	15	2	3C147	56	11	0.83	-30	-3.37	1694.30
	116	23	334	15	352	16	4	3C144	48	-8	0.74	-42	-4.66	1694.36
800426	117	0	324	9	327	14	3	3C161	65	-19	0.91	-19	-2.03	1694.26
	117	2	333	17	322	16	3	3C144+	48	-8	0.74	-41	-4.60	1694.37
	117	4	388	29	372	15	2	3C237	115	-7	1.16	-13	-0.25	1694.24
	117	16	373	15	314	13	2	3C446	61	1	0.87	29	1.53	1694.18
	117	17	357	10	293	31	4	3C459	46	8	0.72	42	1.68	1694.17
	117	19	352	9	387	10	4	3C48	21	64	0.36	-1	-3.47	1694.36
	117	21	380	22	338	19	3	3C144-	47	-8	0.73	-43	-4.59	1694.42
	117	22	303	87	283	14	2	3C147	55	12	0.82	-31	-3.49	1694.34
	117	23	326	14	326	14	3	3C144	47	-8	0.73	-43	-4.80	1694.40
800427	118	1	422	89	406	52	2	3C161	65	-20	0.91	-21	-2.06	1694.35
	118	2	302	45	318	46	2	3C144+	47	-8	0.73	-43	-4.95	1694.40
	118	17	297	9	370	12	3	3C459	47	8	0.73	42	1.46	1694.18
	118	19	343	12	360	13	3	3C48	22	64	0.37	3	-3.23	1694.38
	118	22	558	23	532	22	2	3C147	54	12	0.81	-32	-3.11	1694.46
	118	23	368	12	371	13	3	3C144	46	-8	0.72	-44	-4.75	1694.46
800428	119	0	353	10	382	47	3	3C161	64	-20	0.90	-21	-2.16	1694.36
	119	1	348	24	275	65	2	3C196	78	2	0.98	-16	-1.33	1694.33
	119	2	367	20	356	19	2	3C144+	46	-8	0.72	-45	-4.84	1694.47
	119	17	302	9	305	14	3	3C459	48	8	0.74	40	1.41	1694.22
	119	19	399	15	381	14	3	3C48	22	64	0.37	8	-2.31	1694.42
	119	21	238	15	266	17	2	3C144-	45	-8	0.71	-43	-5.62	1694.43
	119	23	359	16	359	25	4	3C144	45	-8	0.71	-44	-4.88	1694.50
800429	120	0	454	14	402	69	2	3C161	63	-21	0.89	-22	-2.13	1694.44
	120	1	363	32	359	26	2	3C196	77	2	0.98	-16	-1.34	1694.37
	120	2	307	17	285	36	2	3C144+	45	-8	0.71	-45	-5.23	1694.48
	120	2	388	11	398	13	2	3C216	88	1	1.03	-16	-1.08	1694.37
	120	4	314	45	289	39	2	3C237	112	-7	1.15	-14	-0.24	1694.30
	120	16	358	87	337	143	2	3C446	64	1	0.90	26	1.39	1694.29
	120	17	342	9	310	8	3	3C459	49	8	0.75	40	1.68	1694.28
	120	19	524	103	535	63	2	3C48	22	63	0.37	14	-1.20	1694.45
	120	21	325	18	317	18	2	3C144-	44	-9	0.69	-45	-5.20	1694.52
800430	121	0	295	34	330	24	2	3C161	62	-21	0.88	-22	-2.44	1694.40
	121	2	249	15	259	15	3	3C144+	44	-9	0.69	-45	-5.73	1694.49
	121	3	335	13	261	9	2	3C222	105	-8	1.12	-14	-0.48	1694.37
	121	4	425	13	357	26	3	3C237	111	-6	1.14	-14	-0.44	1694.41
	121	16	338	11	386	28	2	3C446	65	1	0.91	25	1.31	1694.32
	121	17	349	11	333	10	3	3C459	50	7	0.77	40	1.71	1694.32
	121	19	381	42	399	11	4	3C48	22	62	0.37	18	-1.70	1694.46
	121	21	368	20	318	17	4	3C144-	43	-9	0.68	-46	-5.13	1694.58
	121	23	261	12	293	13	4	3C144	43	-9	0.68	-47	-5.84	1694.53
800501	122	0	345	13	339	9	3	3C161	61	-22	0.87	-22	-2.36	1694.47
	122	1	308	24	305	14	3	3C144+	43	-9	0.68	-47	-5.51	1694.56
	122	16	422	53	377	49	2	3C459	50	7	0.77	39	1.88	1694.38
	122	19	431	67	416	14	3	3C48	22	62	0.37	22	-1.06	1694.49
	122	20	340	20	328	19	3	3C144-	42	-9	0.67	-47	-5.40	1694.61

VMID IS A MEAN AND VPK IS A MAXIMUM VELOCITY IN THE IPS SCATTERING REGION.
THE REGION'S CENTROID IS SPECIFIED BY LAT, DIST, DLON.
LAG AND ROTATION NUMBER GIVE MAPPING TO EARTH AND SUN AT VMID.
* INDICATES NO ERROR AVAILABLE, SINCE ONLY TWO ANTENNAS WERE OPERATING.

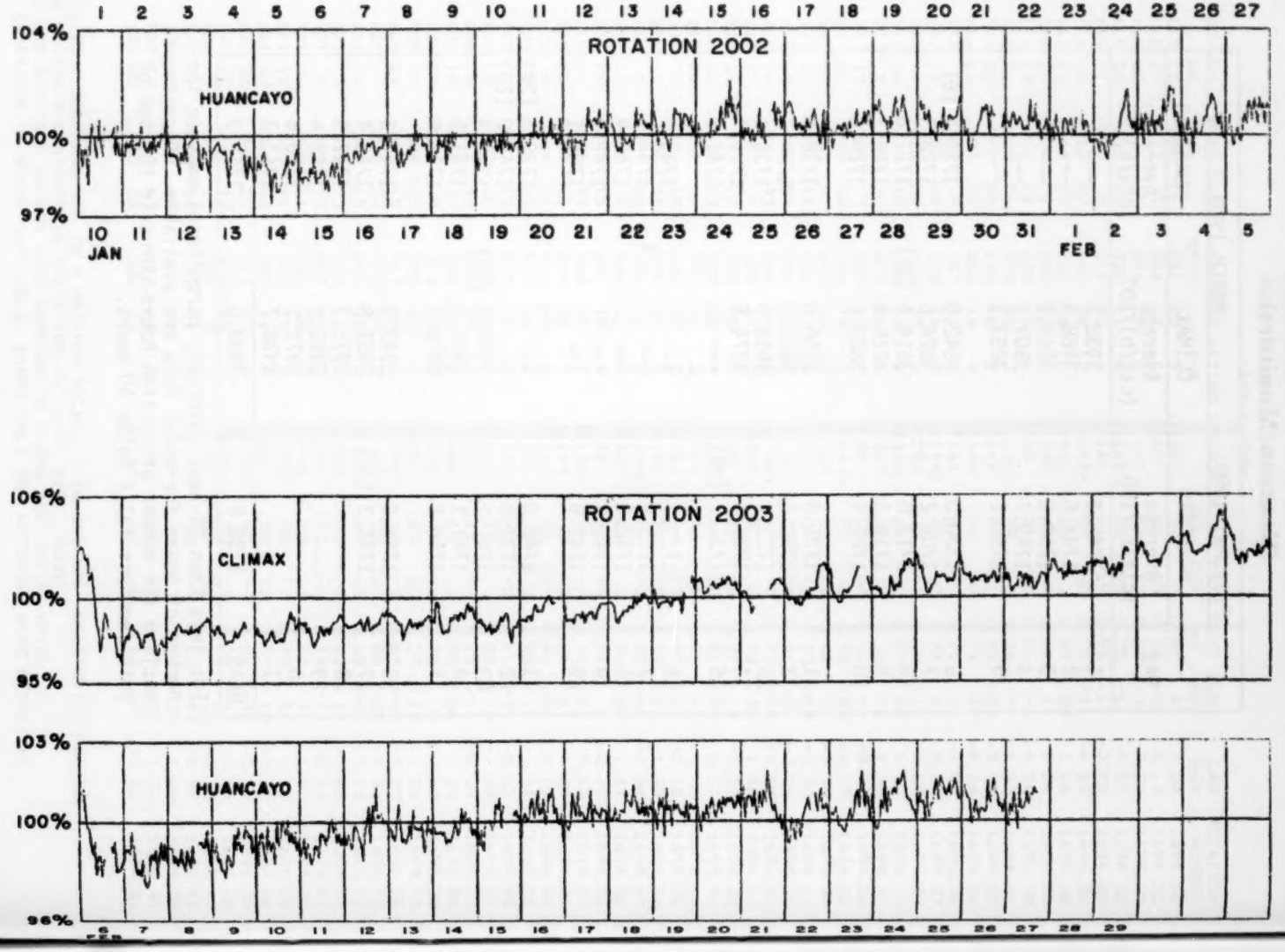
COSMIC RAY INDICES
(Neutron Monitors)

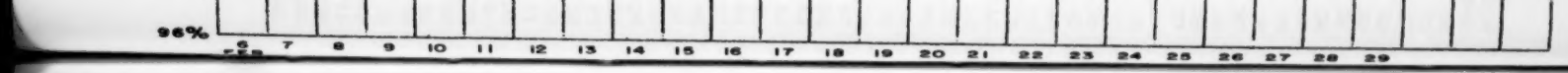
Day	FEBRUARY 1980	MARCH 1980	
	HUANCAYO	CLIMAX	HUANCAYO
	Average (cts/h)/100	Average (cts/h)/100	Average (cts/h)100
1	1746.2	3938.1	---
2	1744.6	3968.4	---
3	1753.5	3945.2	---
4	1749.7	3909.1	---
5	1752.2	3853.1	---
6	1720.0	3842.0	1730.3 (6)
7	1709.2	3824.6	1728.3
8	1713.8	3814.4 (38)	1727.6
9	1716.3	3825.4	1726.7
10	1722.9	3828.6	1729.2
11	1721.0	3850.0	1728.4
12	1730.3	3829.0	1734.7
13	1728.3	3855.0	1734.1
14	1729.4	3874.5	1736.7
15	1734.7 (38)	---	1742.9
16	1739.7	---	1746.7
17	1738.9	---	1746.5
18	1742.0	---	1749.9
19	1741.2	---	1748.5
20	1742.8	---	1729.1
21	1745.0	---	1739.3 (30)
22	1737.8	---	1748.0 (20)
23	1741.2	3939.6 (32)	1749.3
24	1747.1	3932.4	1751.5
25	1750.6	3919.9	1746.6
26	1746.0	3943.8	1747.3
27	1745.3 (36)	3951.8	1745.4
28	---	3975.3	1747.9
29	---	3960.2	1752.4
30		3972.1	1756.6
31		3938.7	1743.3
MEAN	1736.6	3899.5	1741.3

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. Parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

COSMIC RAY INDICES
(Neutron Monitors)

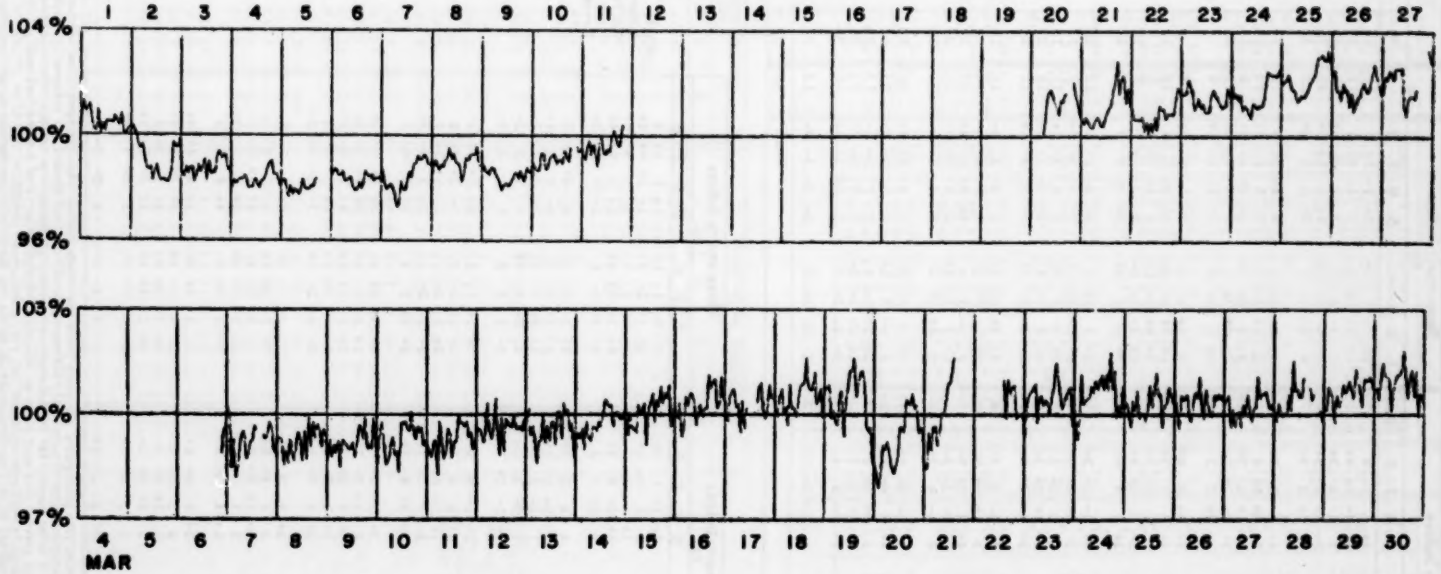
Bartels Rotation 2002 – 2003 (January – February 1980)





COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 2004 (March 1980)



GEOMAGNETIC ACTIVITY INDICES

JAN 1979

Day	Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa				Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M	
1	Q7A	2	3	2-	2-	2+	1	1	4	17-	2+	3-	1	1+	2+	1-	1+	3	10	17	16	14	20	0.5
2		3-	1+	2-	3+	3+	4-	5-	4+	25	1+	1+	1+	3	3	4-	4+	4	19	37	35	18	55	1.0
3		4	4-	2+	3+	3	3	4	3+	27-	3	3-	2	3	3	3	4-	3+	19	31	28	27	33	1.0
4	D1	4+	5	5-	4-	5-	5+	6-	5+	39-	4-	4-	3+	3+	4+	5-	5+	4+	45	71	54	42	84	1.5
5		5+	5	3+	3-	2	3+	3	3-	27+	4	4-	3-	2	2-	3	3	2+	23	32	24	34	23	1.1
6		4-	2+	2+	3+	4+	4	3	2+	25+	3	2	3-	3	4	4+	3+	3	18	32	47	34	46	1.0
7	D4	1+	1	2+	3+	5-	5+	6+	4	28+	2	1+	3-	3	5-	5	6-	3+	32	56	50	22	84	1.3
8	Q6A	3+	2+	3-	1	1-	1+	2	2+	16-	3	2	2+	1+	1-	2-	2	2+	8	14	14	18	10	0.5
9		3	5-	3+	2+	3-	3-	2+	2-	23-	3-	4+	3+	2	3	3	3-	2+	15	26	42	48	21	0.8
10	Q1	1+	1+	1-	0+	1-	0+	2	1	8-	1+	1	1-	0	1-	1-	2-	1+	4	7	6	7	7 CK	0.1
11	Q2	2	2-	1-	2+	2-	0+	0	0+	9	1	1+	1-	2-	2-	1-	0	0+	4	8	7	11	4 CK	0.2
12	Q8A	1+	3-	2+	2	3-	2	2	3+	18+	1+	2+	2+	2-	3-	2+	2	3	10	18	21	18	21 K	0.5
13	Q3K	3+	0	1-	1	1	1	1-	1-	8+	3-	0+	1-	1-	1	1+	1-	1-	5	6	8	8	6 CK	0.2
14	Q5A	1-	2-	2+	2+	3-	3	1+	0+	14+	1+	2-	2+	2-	3	3	1+	1	8	12	16	12	17	0.4
15		1	2	2	4-	3+	3	4	4-	23-	2-	2-	2	3+	3+	3	4-	3	15	24	30	22	33	0.9
16		3+	4-	3	3-	3-	2-	1-	2-	19+	3-	3	2+	2	2+	2-	1-	2-	12	20	18	27	11	0.7
17	Q4A	0+	1	0+	2-	3-	2+	2+	3-	13+	0+	1+	1-	1+	2+	3-	3-	3-	7	15	20	7	27	0.4
18	Q0A	3	3	1+	3-	3-	3	2+	2	20	2+	2-	1	3-	3	3	3-	2+	11	18	18	17	20	0.6
19		4+	5	3-	3+	3-	2+	2+	3-	25+	4-	4	3-	3	2+	2+	2+	3-	19	27	28	39	17	1.0
20		3	3	3	2+	2+	3-	3-	1+	20+	2	3-	3-	2+	3-	3	3-	1+	12	21	20	21	21	0.7
21	Q9A	3	3-	2	3	3	3-	2	2-	20	3-	2+	2-	3-	3	3-	2	2-	11	18	21	23	17	0.6
22		0	1-	1+	2	3	1+	4+	5	18-	0+	1	1+	2-	3	2	4	5-	14	31	18	7	42	0.8
23	D5	3	2	2+	4+	4+	4	5+	5-	30	2	2-	2	4	4+	4+	5-	4+	27	39	42	28	53	1.2
24		6-	5-	3-	3+	2+	3-	3-	3-	27-	5-	3	3-	3+	2	3	3-	3-	23	35	38	42	23	1.1
25	D2	6-	6-	4-	4-	4	4-	4	3+	34-	5	4+	3+	4-	4	4	4-	3	34	52	52	58	46	1.3
26	D3	4+	4-	3	3+	3	4+	4+	5+	31+	3+	3	3-	3-	3-	4	4+	4+	28	52	39	31	60	1.2
27		4-	5	4-	3-	2+	3	4-	4+	28+	3	4-	3	2+	2	3	3+	4-	23	41	36	36	41	1.1
28		2+	3	3-	3+	3	2+	3+	2	22	2+	2+	3-	3	2	2	3+	2-	13	22	26	22	27	0.7
29		3	3	3-	2+	3+	2+	3-	3	22+	2+	2+	2+	2-	3	3-	3-	2+	13	26	25	22	29	0.8
30		3+	3-	3+	3	3+	2+	3	4	25	3-	2	2+	3-	3	2+	3-	3+	16	36	22	30	29	0.9
31		3	3-	3-	3+	3	2-	3-	3-	22-	2	2-	2-	3-	3-	2-	3-	3-	13	22	19	21	21	0.7
																		Mean	16	28.0	27.0	27.5		0.80

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	2+	3-	1+	1+	3-	1-	1	3+	2	3-	1	1+	2+	1	1+	3
2	2-	1+	1+	3	3	4	4+	4-	1+	1+	2-	3	3+	3+	4+	4+
3	3	3-	2	3-	3+	3-	4-	3	3	3-	2	3	3	3	4-	4-
4	4-	4	3+	3+	4+	5-	5	4+	4-	3+	3+	3+	5-	5	6-	4+
5	4	4	3-	2	2	3+	3	2	4+	3+	3-	2	2-	3	3	2+
6	3	2-	2+	3-	4	4	3	3-	3+	3-	3	3	4	4+	4-	3
7	2-	1	2+	3	5-	5+	5+	3+	2	2-	3	3-	5-	5	6	4-
8	3	2-	2-	1-	1	2-	2	2	3+	3-	3-	2-	1-	2-	2	3-
9	2+	4-	3	2	3	3-	3-	2-	3	5-	4-	2+	3	3+	3	3-
10	1	1	0+	0+	1-	1-	1+	1+	2-	1	1	0	1	1	2	2-
11	1+	1+	1-	2-	2-	1-	0	0	1-	1+	1-	2	2-	1-	0+	1-
12	1	2-	2-	1+	2+	2	2	3	1+	3-	3-	2-	3-	2+	2+	3
13	3-	0+	1-	1-	1+	1+	0+	0+	2+	1-	0+	1-	1	1+	1+	1
14	1-	2-	3-	2-	3-	3	1+	1-	2-	2-	2-	2-	3	3	2-	1+
15	1	1+	2	3+	3+	3+	4-	3+	2+	2+	2	3	3+	3	4-	3
16	3-	3	2+	2	3-	2-	1-	1+	3-	3+	2+	2	2	1+	1-	2-
17	0+	1-	0+	1+	2	3-	3-	2+	1-	2-	1	2-	2+	3-	3-	3-
18	3-	2-	1-	3-	3-	3	2+	2-	2+	2-	1+	2+	3	3	3-	2+
19	3+	4	2	3	2+	2+	2	3-	4	4+	3-	3	2+	3-	3-	3
20	2+	3-	3-	2	2+	3	3-	1	2-	3-	2+	2+	3-	3-	2+	2-
21	3-	2+	2-	3-	3+	3	2	1+	3	2	2-	3-	3	3-	2+	2-
22	0+	1-	1	1+	3	2	4+	4+	0+	1+	2-	2-	3	2-	4	5-
23	2	2-	2-	4-	5-	4+	5-	4	2	2-	2	4	4	4+	5-	5-
24	5+	4-	3	3+	2	3	2+	3-	4	3-	3-	3+	2+	3	3	3-
25	5	5-	3	3+	4-	4	3+	3	5-	4	3+	4	4+	4	4	3
26	4-	3-	3-	3	3-	4	4+	4+	3	3	3-	3-	2+	4+	4+	4+
27	3	4-	3	2+	2	3	3+	4	3	4	3-	3-	2	3+	3+	4-
28	2-	2+	2+	3	2	2+	4-	2-	3-	2+	3-	3	2	2	3+	2
29	2+	2+	2	2-	3	3-	3-	3-	3-	2+	3-	1+	3	3-	3-	2+
30	3-	2	2+	3-	3	3-	3-	3+	2+	2-	3-	3-	3	2+	3-	3+
31	2+	2-	2	3-	3-	2-	2+	2+	2	2	2-	3-	3	2-	3-	3-

ERRATA: The values of Kn and Km for January 1979 which appeared in SGD 415 Part I, page 155, March 1979 issue, were slightly in error. Corrected values appear here.

Quiet days (Q) and disturbed days (D), geomagnetic planetary three-hour-range indices (Kp) (integers alone are equivalent to those normally given with a small zero), magnetic character figures (Cp), and average amplitude (Ap) (unit 2 nT) prepared by Geophysikalisches Institut at the University of Göttingen, F.R. of Germany for the International Service of Geomagnetic Indices. Ten most quiet days [Q1-Q0(10)] and five most disturbed days [D1-D5] are ordered from most quiet or disturbed, respectively. A or K means "not really quiet" (A = "Ap>6", K = "Ap≤6 but one Kp≥30 or two Kp values≥3-"). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic three-hourly indices Km, Kn, Ks, daily mean values Am, An, As (unit 1nT), and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices daily north (N) and south (S) values, and half-daily antipodal mean (M) values are given. Quiet 24-hour and 48-hour intervals centered on 1200 UT are indicated for really quiet as C and for quiet but with some slightly disturbed three-hour intervals as K. The first hundred years series of aa is in IAGA Bulletin No.33, and complementary data are in IAGA Bulletin No.39.

GEOMAGNETIC ACTIVITY INDICES

APR 1979

Day		Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa				Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M		
1		4+	5-	3	4	4+	3+	2+	6+	32+	4-	4	3-	4-	4-	3+	2+	5+	33	34	46	41	39	1.3
2		6+	5	3+	4-	4-	5-	4-	4-	34	6	5-	3	3	3	4+	3	3	36	59	56	56	58	1.4
3		3	2+	3-	3-	3-	5+	7-	8	33+	3	2	3-	3-	3-	5-	6-	7-	54	32	31	45	19	1.6
4	D5	7-	6+	5+	5+	5-	2	2-	2+	34+	6-	5	5-	4+	4+	1+	2-	2	47	88	93	00	81	1.5
5	D2	4+	4	5-	6	7-	6+	4-	3-	38+	4+	4+	4+	5+	6-	5+	3+	3-	52	40	71	36	75	1.6
6		4-	3-	3	1+	3-	3+	2+	2	21	3	2+	2+	1+	2	3-	2+	2	12	61	24	68	18	0.7
7	Q0A	2+	3	3	3-	2-	2+	2+	3+	21-	2	2+	3-	3-	1+	2	2	3	12	22	15	17	21	0.7
8		3+	3-	2+	2	2-	2+	3	3+	21-	3-	2+	2+	2-	2-	2	3	3	12	19	16	17	19	0.7
9	Q6A	4	3+	1	1-	1+	2-	2-	1+	15	3+	3	1+	1	1+	1+	2-	1	9	25	18	22	22	0.5
10	Q8A	1	3-	3+	2+	3	3	3-	2	20	1	3	3	2+	3-	2+	2+	2+	12	12	15	9	18	K	0.7
11	Q3K	1-	1	1+	1+	1+	3	1+	2	12	1-	1	1	1+	1+	2+	1+	2-	6	12	10	17	6	CK	0.3
12		2	3	3	3+	2+	3	3	4	24-	1+	3-	3	3	2	3-	3-	3+	15	20	18	11	26		0.9
13	Q9A	2+	2+	2+	3-	3+	3+	2-	2+	20+	2	2	2+	2	3	3-	2-	2	11	25	16	20	14		0.6
14		2+	2+	2	3-	3-	4-	3-	5-	23	2	2	2-	2	2	3-	3-	4	15	18	14	21	12		0.9
15		4	3	2	3-	4+	3+	3-	3+	25+	4-	3-	1+	3-	3+	3	3-	3	18	34	19	35	20		1.0
16		4	5-	3+	3	2+	3-	2	1	23	4-	4	3	3-	2	2	2+	1	16	34	25	32	27		0.9
17	Q5A	3	3-	3	2+	2	2-	3-	2+	20-	3-	2+	3-	3-	2-	1+	3-	2	11	17	16	14	20		0.6
18	Q4	2	2	1+	2+	1	1	1+	2-	13-	2-	2-	1+	2+	1	1-	1+	2-	6	16	13	17	13		0.3
19	Q2	1	2	2-	1	1	2+	1+	1+	12-	1+	2+	2-	1	1-	2+	1	1	6	11	7	8	10	CC	0.2
20	Q1	1-	0	1-	0+	0+	1-	1-	0+	4-	0+	0	0+	0	0	0	1-	1-	2	9	6	12	3	CC	0.0
21		1	2-	2+	3-	4	4+	4	5	25	1-	1+	2+	3-	4-	3+	4-	5-	21	8	10	4	13	C	1.1
22	D4	6-	6-	4	5	4+	5	5-	4+	39-	5-	4	3+	4+	3+	4	4	4-	45	59	52	53	58		1.5
23		5	5	3+	3+	3+	3+	3-	2	28	4+	4	3+	3	3+	3	2+	2-	23	52	39	48	43		1.1
24		3+	3+	3+	2+	2+	2	2-	4	22+	3+	3	3-	2+	2+	2+	2-	4-	14	24	25	26	24		0.8
25	D1	8-	8	8-	7	7	5	6-	6-	54-	6+	6+	7-	6+	6	4+	4+	5	126	09	66	27	48		1.9
26	Q7A	4	2+	1	2	1	3-	3	3	19	4-	2+	1+	2-	1+	2	3-	3-	12	51	66	03	15		0.7
27		3+	3+	3	3-	3+	5	5-	5	30+	3+	4-	3	3-	3	4	4-	4+	27	26	17	18	26		1.2
28		5-	4	5+	4+	4-	3+	4	4	33+	4+	4-	4+	4	3	3-	3+	4-	31	45	50	48	48		1.3
29	D3	4	5+	5+	4+	4+	5+	5	6-	39+	4	4+	5-	4-	4-	4+	4+	5-	47	43	36	34	45		1.5
30		5+	4+	3+	4+	4+	3	3	3-	30+	4+	4	3+	4	4-	2+	3-	2+	26	66	52	75	43		1.2
																		Mean	25	35.7	31.4	33.8		0.96

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	3+	4-	3	4-	4-	3+	2+	5+	4	4	3-	4	4-	3+	2	5+
2	6-	5-	3	3	3+	4+	3+	3	6	4+	3	3	3	4+	3	3
3	3-	2-	3-	3-	3-	5-	6-	7-	3	2+	3	3-	2+	5-	6-	7-
4	6-	5	4+	4+	4	2-	1+	2	6-	5+	5	5-	5-	1+	2-	2-
5	4	4+	4+	5+	6	6	4-	3-	5-	4+	4+	5	5	5	3	3
6	3	2+	3-	2-	2+	3	3-	2+	3	2+	2+	1	2-	2	2	2-
7	2	3-	3-	3-	2	2+	2+	3	2	2	2+	3-	1	2	2-	3
8	3-	2+	2	2-	2-	2+	3	3+	3-	3-	2+	2-	1+	2	3	3
9	3+	3	1+	1-	1+	2	2	2-	4-	3	2-	1	1	1-	1	1-
10	1-	3	3	2+	2+	2+	3-	2+	1	3+	3	2	3-	2+	2	2
11	1	1	1+	1+	1+	3-	2-	2	1-	1+	1	1	1+	2	1	1+
12	2-	2+	3	3-	2+	3-	3-	4-	1+	3-	3-	3	2	2+	2+	3+
13	2	2-	3-	2	3	3-	2-	2	2	2	2	2-	3	3-	2-	2
14	2	2	2	2+	3-	3-	3	4+	2-	2	2-	2	2-	3-	3-	4
15	3+	3-	2-	3-	4-	3	3-	3+	4-	3	1	2+	3	3	2+	3-
16	4-	4-	3	3-	2+	2	3-	1	4-	4	3-	2	2-	2	2-	1
17	3-	2	3	3-	2	1+	3-	2-	3-	2+	2+	3-	2-	1+	3-	2
18	2-	2	1+	2+	1+	1	2-	2	2-	1+	1+	2+	1	0+	1-	2-
19	1	2+	2-	1+	1	2+	1	1+	1+	2+	2-	1	0+	2	1-	1-
20	1-	0	0+	0	0	0+	1-	1-	0+	0	0+	0	0	0	0+	0+
21	1	1+	3-	3-	4-	3+	4	4+	1-	2-	2	2+	4-	3+	4-	5-
22	5-	4	3+	4+	4-	4	4-	4-	5-	4	3+	4	3	4	4+	4-
23	4+	4	3+	3	3+	3	3-	2+	5-	4+	3	3	3+	3	2	1+
24	3	3-	3	3-	2+	2	1+	4	3+	3	3-	2	2	2+	2-	3
25	6+	7-	7	6+	6	4	4+	5-	7-	6-	7-	6	6+	5-	4+	5
26	3+	2	1+	2	1+	2+	3-	3-	4-	3-	1+	1+	1+	1+	2+	2+
27	3	3+	3+	3-	3	5-	4-	4	4-	4-	2+	3	3	4-	4-	5-
28	4+	4-	5-	4+	3+	3	3+	4-	4+	4-	4-	4-	3-	3-	3+	4-
29	3+	4+	5-	4	3+	5-	4	5-	4+	4	5-	4-	4-	4-	4+	5-
30	4+	4	3+	4	4-	3-	3-	3-	5-	4	4-	4-	4-	2	3-	2-

ERRATA: The values of Km for April 1979 which appeared in SGD 418 Part I, page 158, June 1979 issue, were slightly in error. Corrected values appear here.

Quiet days (Q) and disturbed days (D), geomagnetic planetary three-hour-range indices (Kp) (integers alone are equivalent to those normally given with a small zero), magnetic character figures (Cp), and average amplitude (Ap) (unit 2 nT) prepared by Geophysikalisches Institut at the University of Göttingen, F.R. of Germany for the International Service of Geomagnetic Indices. Ten most quiet days [Q1-Q0(10)] and five most disturbed days [D1-D5] are ordered from most quiet or disturbed, respectively. A or K means "not really quiet" (A = "Ap>6", K = "Ap≤6 but one Kp>30 or two Kp values>3+"). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic three-hourly indices Kn, Kn, Ks, daily mean values Am, An, As (unit 1nT), and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices daily north (N) and south (S) values, and half-daily antipodal mean (M) values are given. Quiet 24-hour and 48-hour intervals centered on 1200 UT are indicated for really quiet as C and for quiet but with some slightly disturbed three-hour intervals as K. The first hundred years series of aa is in IAGA Bulletin No.33, and complementary data are in IAGA Bulletin No.39.

Hα SOLAR FLARES

APRIL 1980

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
BIGB	13	1545	1547	1612	N11	W90	1.000		6.9	27	1B	3	C	1547	60		
RAMY	13	1546	1558	1612	N16	W63	.914		8.9	26	SN	3	C		27		
RAMY	13	1615	1622	1704	S12	E74	.957		19.2	49	2B	3	C		0		
RAMY	13	1619	1625	1639	S18	W69	.929		8.5	20	1B	3	C		199		
RAMY	13	1621	1625	1648	S15	W79	.978		7.8	19	1B	3	C		0		
WEND	13	1629	1638	1636	S31	E02	.427		13.8	7	SN		C	1630	38	.5	
WEND	13	1650	1654	1702	N12	E43	.723		16.9	12	SN		C	1654	94	1.3	
BIGB	13	1725	1732	1744	N09	W90	1.000		7.0	19	1F	3	C	1732	68		
WEND	13	1727		1737D	S18	E38	.630		16.6	10D	SF		C	1729	28	.4	
BIGB	13	1728	1733	1817	N18	E39	.718		16.7	49	SB	3	C	1733	90	1.2	
RAMY	13	1728	1738	1833	N26	W32	.708		11.3	65	SF	3	C		32		
WEND	13	1729		1737D	N18	E40	.720		16.7	8D	SN		C	1735	31	.4	
RAMY	13	1751	1801	1908	S14	E71	.941		19.1	77	SN	3	C		35		
RAMY	13	1806	1815	2021D	N15	W65	.925		8.9	135D	SB	3	C		65		D
HOLL	13	1817E	1837U	1902D	N13	W65	.922		8.9	45D	SB	2	C		107		
BIGB	13	1851	1854	1910	S06	E03	.052		14.8	19	SB	3	C	1854	120	1.2	
HOLL	13	1937	1940	1954	S09	E77	.972		19.6	17	SF	2	C		0		
BIGB	13	1938	1941	2005	N13	E42	.716		17.0	27	SN	3	C	1941	110	1.5	
BIGB	13	1955	2002	2042	N18	E38	.788		16.7	47	SN	3	C	2002	90	1.2	
BIGB	13	2121	2122	2131	N10	W90	1.000		7.1	10	1B	3	C	2122	60		
BIGB	13	2127	2134	2152	S32	E01	.442		14.0	25	SN	3	C	2134	100	1.0	
WEND	14	0559E		0602	S08	E04	.080		14.5	3D	SN		C	0559	100	1.0	BZ
WEND	14	0559E		0606D	S21	W22	.442		12.6	7D	SN		C	0600	31	.4	
WEND	14	0637E		0710	S18	E28	.500		16.4	33D	SF		C	0645	68	.8	
CATA	14	0640	0645	0655D	S18	E29	.513		16.5	15D	SB	2	P	0645	68	.8	
WEND	14	0802	0805	0813	S06	W09	.156		13.7	11	SF		C	0805	22	.2	D
WEND	14	0824		0845	N21	W80	.992		8.4	21	SF		C	0832	19		
CATA	14	0825E	0825	0830D	S24	W29	.550		12.2	5D	SB	2	P	0825	84	1.0	
CATA	14	0928E	0935	0955	S19	E27	.492		16.4	35D	SN	2	P	0935	112	1.3	
RAMY	14	1220	1222	1231	S13	W55	.816		10.4	11	SN	3	C		45		
RAMY	14	1313	1319	1328	S14	W58	.844		10.2	15	SB	3	C		60		
RAMY	14	1443	1446	1449	N09	E02	.256		14.8	6	SF	3	C		22		
RAMY	14	1657	1712	1727	N09	E02	.256		14.9	30	SF	3	C		40		
HOLL	14	1712	1721	1721	N11	W00	.287		14.7	9	SF	3	C		21		
HOLL	14	1840	1847	1901	N18	W53	.842		10.8	21	SF	3	C		21		
HOLL	14	1906	1915	1929	N14	W58	.873		10.4	23	SF	3	C		18		
BIGB	14	2004	2034	2123	S19	E21	.413		16.4	79	1B	3	C	2034	200	2.2	
BIGB	14	2025	2026	2035	S05	W13	.224		13.9	10	SN	3	C	2026	70	.7	
BIGB	14	2028	2035	2114	S32	W11	.473		14.0	46	SN	3	C	2035	170	1.8	
HOLL	14	2037	2043	2135	S19	E15	.338		16.0	58	SN	3	C		145		
HOLL	14	2132	2137	2212	N11	W01	.288		14.8	40	SF	3	C		42		
BIGB	14	2136	2139	2220	S33	W03	.461		14.7	44	SB	3	C	2139	100	1.0	
HOLL	14	2220	2222	2300	N11	W02	.289		14.8	40	SF	3	C		61		
CATA	15	1245	1245	1245D	S27	E65	.908		20.4		1N	2	P	1245	84	2.1	
BIGB	15	1509	1512	1609	N19	E12	.459		16.5	60	SB	1	C	1512	160	1.7	
WEND	15	1514E		1610	N18	E12	.445		16.5	56D	1N		C	1515	250	2.8	
RAMY	15	1619	1621	1623	N08	W13	.322		14.7	4	SF	3	C		28		
WEND	15	1621E		1732D	S09	W20	.344		14.2	71D	SF		C	1635	75	.8	E
RAMY	15	1700	1701	1706	N26	W57	.896		11.4	6	SF	3	C		16		
BIGB	16	0058E	0104	0114D	N19	E07	.431		16.6	16D	SB	2	P	0104	170	1.8	
WEND	16	0541E	0544	0617	N12	E09	.337		16.9	36D	1N		C	0544	320	3.4	
ISTA	16	0645E		0710	N20	E04	.436		16.6	25D	1B						BF
WEND	16	0645	0656	0724	N19	E04	.420		16.6	39	1N		C	0656	225	2.5	
ATHN	16	0705	0709	0747	N18	W02	.481		16.1	42	SN	3	V	0709	147	1.6	
WEND	16	0726	0728	0734	N12	E10	.345		17.1	8	SF		C	0728	68	.7	
WEND	16	0804		0858	N19	E03	.418		16.6	54	SN		C	0845	156	1.7	
ATHN	16	0846	0927	1002	N18	W01	.400		16.3	76	SN	3	V	0927	164	1.8	
WEND	16	0909	0913	0951	N19	E03	.418		16.6	42	SN		C	0913	118	1.3	
WEND	16	0913	0917	0932	N11	E07	.308		16.9	19	SF		C	0917	113	1.2	
ATHN	16	1011	1022	1032	N18	E01	.400		16.5	21	SN	3	V	1022	131	1.4	
WEND	16	1012E		1023D	N19	E02	.417		16.6	11D	SN		C	1012	168	1.8	
WEND	16	1330	1332	1348	S20	E80	.981		22.6	18	SN		C	1332	25		A
RAMY	16	1351	1359	1411	S15	E41	.661		19.7	20	SN	3	C		96		
WEND	16	1447E		1518D	N19	E03	.418		16.8	31D	SF		C	1454	56	.6	E
WEND	16	1644E		1648D	S27	E01	.366		16.8	4D	SN		P	1646	28	.3	D
RAMY	16	1937	1938	1943	N24	W75	.981		11.2	6	SN	3	C		0		
RAMY	16	1951	1951U	2001	S14	E35	.580		19.5	10	SN	3	C		25		
BIGB	16	2030	2037	2126	S17	W58	.846		12.5	56	SF	2	C	2037	60	1.2	
HOLL	16	2043E	2043U	2057D	N27	W74	.980		11.3	14D	SF	2	C		14		

Hα SOLAR FLARES

APRIL 1980

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA MIL. of Disk	CORR. AREA Sq. Deg.	
PALE	26	1930	1955	1959	N04	E73	.959		2.3	29	SF	3	C		42		
BIGB	26	1934	1945	2005	S13	W35	.581		24.2	31	SN	2	C	1945	60	.8	
RAMY	26	1937	1938	1942	N08	W80	.987		20.8	5	SN	3	C		0		
HOLL	26	1938	1938	1946	N06	W81	.989		28.7	8	SN	3	C		20		
RAMY	26	1952	1953	2002	N04	E74	.963		2.4	10	SF	3	C		0		
PALE	26	2000	2002	2004	N06	W85	.997		20.5	4	SF	3	C		0		D
BIGB	26	2031	2034	2057	S18	E62	.883		1.5	26	1N	2	C	2034	200	4.3	A
PALE	26	2113E	2128U	2145	N06	W87	.999		20.4	320	SN	3	C		0		D
HOLL	26	2125	2128	2146	N08	W85	.997		20.5	21	SN	3	C		0		
HOLL	26	2201	2211	2223	N08	W89	1.000		20.2	22	SN	3	C		0		
PALE	26	2203	2211	2219	S18	W63	.890		22.2	16	SN	3	C		19		D
HOLL	26	2203	2204	2223	S19	W61	.875		22.3	20	SN	3	C		36		
PALE	26	2211	2212	2218	N07	W83	.994		20.7	7	SN	3	C		31		
PALE	26	2315E	2347	0008	N02	E74	.962		2.5	530	SF	3	C		0		
PALE	27	0059		0132	S19	W66	.912		22.1	33	SN	3	C		37		D
CATA	27	0630	0630	0645	S16	W36	.604		24.6	15	SN	2	C	0630	28	.4	
RAMY	27	1236	1251	1311	N02	E70	.941		2.8	35	SF	3	C		17		
RAMY	27	1255	1259	1318	S11	E09	.191		28.2	23	SN	3	C		32		
RAMY	27	1314	1323	1330	N03	E64	.902		2.4	16	SF	3	C		21		
RAMY	27	1816	1817	1848	N03	E61	.878		2.3	32	SB	3	C		118		
HOLL	27	1817E	1819	1849	N03	E61	.878		2.3	320	SB	3	C		119		
BIGB	27	1912	1918	1928	N05	E90	1.000		4.6	16	1N	1	C	1918	130		
BIGB	27	1928	1929	1940	S15	W43	.689		24.6	12	SB	1	C	1929	80	1.1	
HOLL	27	2129	2135	2136D	S11	E84	.131		28.2	90	SF	3	C		57		
PALE	27	2315E	2347	0008	N02	E74	.962		3.5	530	SF	3	C		0		
MANI	28	0310E	0310U	0321D	S18	W78	.975		22.3	110	SN	2	C		80		
ISTA	28	0530E		0551	S29	W54	.835		24.2	210	SN						D
MANI	28	0629E	0631U	0637D	S20	E38	.546		30.5	80	SN	4	C		40		
ISTA	28	0631		0646	S09	W59	.855		23.8	15	SN						E
MANI	28	0738E	0740U	0748D	S04	E56	.827		2.5	100	1N	4	C		150		
CATA	28	0820	0825	0825D	S15	E36	.601		1.0	50	SN	2	P	0825	84	1.1	
RAMY	28	1157	1157	1214	N07	E53	.810		2.5	17	SN	3	C		27		
RAMY	28	1334	1336	1352	S19	W86	.996		22.1	18	SN	3	C		0		
RAMY	28	1416	1417	1425	N04	E53	.805		2.6	9	SN	3	C		21		
RAMY	28	1441	1442	1450	N05	E53	.807		2.6	9	SN	3	C		34		
RAMY	28	1539	1543	1554	N13	E80	.989		4.7	15	SF	3	C		0		
RAMY	28	1852	1906	1936	N04	E49	.762		2.5	44	SN	3	C		68		
HOLL	28	2228	2231	2242D	S21	E20	.438		30.4	140	1N	2	C		224		
MANI	29	0352E	0355	0402	N03	E45	.714		2.5	100	SN	3	C		58		
MANI	29	0650E	0652U	0705D	S20	E15	.365		30.4	150	SN	3	C		50		
MANI	29	0810E	0812	0825D	S13	E85	.995		5.7	150	SN	3	C		20		
RAMY	29	1208	1221	1310	N07	E40	.663		2.5	62	SN	3	C		129		
RAMY	29	1241	1242	1250	S21	E14	.366		30.6	9	SN	3	C		29		
ATHN	29	1300E	1305	1317	S17	W68	.925		24.4	170	1B	3	V	1305	98	2.7	
RAMY	29	1324	1325	1332	N15	E55	.846		3.7	8	SN	3	C		40		
RAMY	29	1401	1402	1407	S15	E88	.999		6.2	6	SN	3	C		0		
RAMY	29	1428	1430	1440	N15	E57	.863		3.9	12	SF	3	C		54		
RAMY	29	1507	1508	1521	S19	E11	.311		30.5	14	SF	3	C		24		
RAMY	29	1540	1601	1617	N13	E60	.883		4.2	37	SF	3	C		43		
RAMY	29	1544	1603	1631	S20	E10	.316		30.4	47	SN	3	C		99		
RAMY	29	1644	1654	1700	S15	E79	.979		5.6	16	SN	3	C		17		
RAMY	29	1853	1855	1900	N13	E57	.859		4.1	7	SF	3	C		15		
RAMY	29	1935	1937	1944	N14	E57	.861		4.1	9	SF	2	C		30		
RAMY	29	2114	2114	2121	N15	E53	.829		3.9	7	SF	2	C		17		
RAMY	30	1537	1541	1650	S20	W82	.273		30.5	73	1N	3	C		276		
RAMY	30	1645	1646	1701	N15	E41	.707		3.8	16	SN	3	C		84		
RAMY	30	1717	1759	1802	S12	E66	.911		5.7	45	SN	3	C		21		
RAMY	30	1727	1727	1753	N10	E53	.816		4.7	26	SF	3	C		16		
RAMY	30	1735	1749	1833	N06	E24	.440		2.5	58	SB	3	C		168		
RAMY	30	1931	1933	1947	N14	E43	.724		4.0	16	SF	3	C		16		
RAMY	30	1956	1958	2009	S19	W84	.263		30.5	13	SN	3	C		140		
BIGB	30	2030E	2030U	2122	S14	W86	.996		24.4	520	1B	1	P	2030	80		A
RAMY	30	2050	2112	2144D	S12	E64	.896		5.7	540	SF	3	C		34		
MANI	31	0053E	0056U	0112	S11	E62	.881		5.7	190	SF	3	C		58		
MANI	31	0107E	0111U	0121	S20	W07	.296		30.5	140	SN	3	C		100		
MANI	31	0142E	0142U	0152	S11	E61	.873		5.6	100	SN	3	C		70		
MANI	31	0441E	0446U	0446D	S11	E60	.864		5.7	50	SN	2	C		80		

Hα SOLAR FLARES

APRIL 1980

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
RAMY	31	1150	1157	1202	S10	E54	.807		5.5	12	SN	3	C		32		
RAMY	31	1150	1150	1210	N02	E11	.218		2.3	20	SB	3	C		191		
RAMY	31	1159	1159	1204	S13	E81	.986		7.6	5	SF	3	C		8		
RAMY	31	1334	1335	1339	S14	E60	.865		6.1	5	SN	3	C		20		
RAMY	31	1349	1404	1412	S13	E53	.799		5.6	23	SN	3	C		41		
RAMY	31	1354	1359	1416	N07	E12	.202		2.5	22	SF	3	C		55		
RAMY	31	1408	1413	1431	S21	W14	.369		30.5	23	SF	3	C		83		
RAMY	31	1526	1531	1630	N17	E52	.825		5.5	64	SN	3	C		61		
RAMY	31	1629	1630	1649	S20	W16	.378		30.5	20	SB	3	C		159		D

"REMARKS":

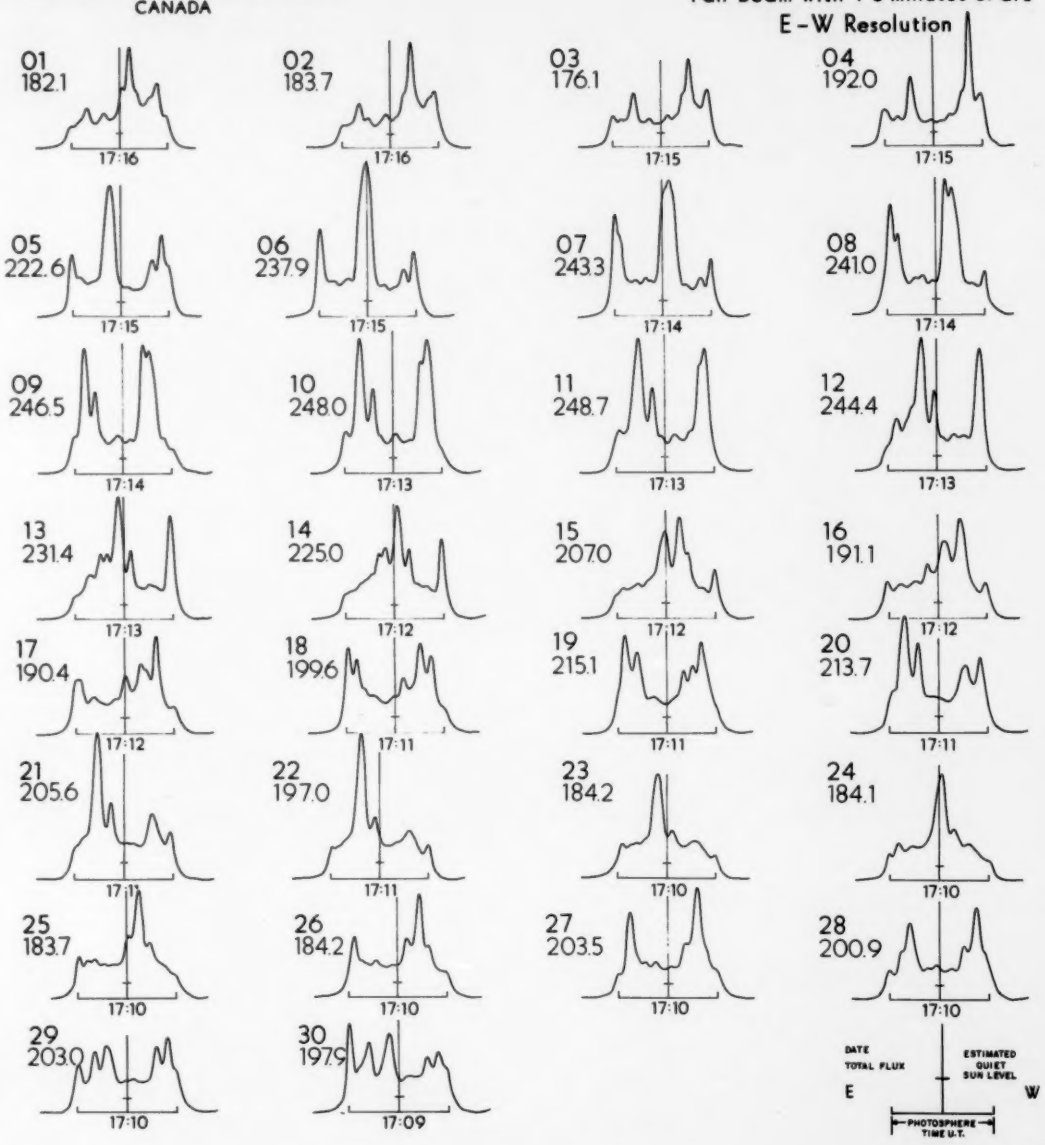
A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of CaII.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

EAST-WEST SOLAR SCANS

APRIL 1980

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



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JUNE 198

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Data for

Explanation

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JUNE 1980 NUMBER 430 -- Part II

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P-A STACKS

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Solar-Geophysical Data comprehensive reports

Data for December 1979 & Miscellanea

Explanation of Data Reports Issued as Number 426 (Supplement) February 1980

Late Data	Pages 23-108
Apr 1979 Solar Flares	Pages 32-67
May 1979 Solar Flares	Pages 68-108

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NO. 430 JUNE 1980

Part II (Comprehensive Reports)

DATA FOR
DECEMBER 1979

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SOLAR-GEOPHYSICAL DATA

No. 430

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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F.1h	Cosmic Ray Neutron Counts (Thule)	419B 62	419A153	420A155	421A158	422A165	423A161	424A146	425A143	426A132	427A147	428A134	429A137	430A154	
F.1i	Cosmic Ray Neutron Counts (Kiel)	418A151	419A153	420A155	421A158	422A165	423A161	427A159	425A143	426A132	427A147	428A134	429A137	430A154	
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Notes:

"418A 48" listed under 1979 Apr means that the sunspot drawings for April 1979 were contained in *Solar-Geophysical Data* Number 418 - Part I, beginning on page 48.

A = Part I, B = Part II.

----- = no data available.
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SGD 430 Part II (Comprehensive)

DECEMBER 1979 DATA

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NOTE ON SOLAR FLARE DATA DELAY:

Solar Flare data for publication are now over a year delayed from date of observation, rather than the usual six montns. Several problems have caused this delay. A basic step of flare processing is using the Carte Synoptique de la Chromosphere to identify active centers. Because these Carte Synoptique data are also currently delayed, the Meudon Observatory staff, who performs this analysis, are hindered in their efforts. Meudon is also changing to another computer, which can mean computer program conversion problems that can delay the work. NGSDC is also working on some conversion problems.

A delay in the final listing of the solar flare data also delays the Daily Flare Index, the Regional Flare Index and the Abbreviated Calendar Record. We deeply regret this situation and hope it will improve in the near future. We ask for your patience in the interim.

For researchers who need the solar flare data more promptly, NGSDC has available "Preliminary" final listings of solar flares for April-August 1979. These fairly complete listings do not have the final Meudon corrections, and thus will not be published until we receive these corrections. However, they are available on request with the stipulation that they are recognized as "Preliminary" final listings when used in research projects. A fee may be charged for reproducing these data if a large demand ensues. Please contact the editor, Helen Coffey, for copies of these listings (phone: (303) 499-1000 X6223; FTS: 323-6223; Telex: SOLTERWARN BLDR 45897.)

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
01	260	ONDR	44 NS	0813.0E		357.0D	26			
	3100	CRIM	24 R	0731.0	1012.0		13			
	536	ONDR	2 S/F	0943.4	0943.7	1.5	20	4.6		
	2800	OTTA	20 GRF	1510.0	1605	100.0	2.8	1.7		
	2800	OTTA	20 GRF	1700.0	1800	90.0	3.2	1.6		
	9400	HUAN	20 GRF	1741.3	1837.1	95.8	8.2	3.8		L
	9400	HUAN	20 GRF	2020.4	2037.7	37.1	4.9	2.6		0
	9400	HUAN	1 S	2115.0	2115.9	1.6	9.8	1.6		0
02	260	ONDR	44 NS	0853.0E		314.0D	7			
	3100	CRIM	1 S	1052.0	1052.5	1.0	5	1		
	2800	OTTA	20 GRF	1500.0	1715	225.0	5.2	2.6		
03	260	ONDR	44 NS	0805.0E		347.0D	20			
	9400	HUAN	1 S	1132.8	1134.0	1.8	5.0	1.9		0
	113	POTS	4 S/F	1138.0	1138.1	.1	100	10		
	9400	HUAN	28 PRE	1450.7	1508.3U	17.6	13.3	4.0		0
	2800	OTTA	240AR	1455.0	1835	220.0	10.6			
	2800	OTTA	21 GRF	1456.0	1520	160.0	23.0	11.5		
	930	BORD	45 C	1503.0	1504	3.0	83	30		
	2800	OTTA	40 F	1503.0	1504.3	1.5	7.4			
	930	BORD	45 C	1511.0	1512.5	10.0	37	8		
	2800	OTTA	3 S	1511.0	1513	6.0	31.6	26.0		
04	260	ONDR	44 NS	0902.0E		298.0D	30			
	5730	IRKU	2 S	0220.5	0224.8	8.0	166			L
	4995	MANI	4 S/F	0221.7	0224.8	7.3	205.0	68.3		
	8800	MANI	47 GB	0222.2	0224.7	6.8	786.6	262.2		
	2695	MANI	4 S/F	0223.3	0224.8	3.2	32.8	10.9		
	1415	MANI	2 S/F	0224.8	0224.2	1.0	3.2	1.1		
	5730	IRKU		0429.5	0444.5		26			L
	5730	IRKU	45 S	0429.5	0431.0	18.0	11	8		L
	5730	IRKU		0429.5	0434.0		14			L
	5730	IRKU		0429.5	0440.5		19			L
	700	SYDN	4 S	0451.8	0453.1	2.6				
	113	POTS	4 S/F	0806.4	0806.5	.5	700	70		
	202	IZMI	41 F	0829.0	0835.0	21.0	105			
	127	TORN	48 C	0829.5	0837.0	20.5	88			
	113	POTS	42 SER	0829.8	0838.0	19.0	100			
	2650	DWIN	42 SER	0956.0	1033	55.0	165			
	9400	HUAN	21 GRF	1314.5	1326.4	42.6	10.4	5.0		R
	7000	SAOP	45 C	1319.7	1323.1	12.0	32.0			16R
	9400	HUAN	1 S	1321.6	1323.1	3.9	12.1	5.9		R
	2800	OTTA	2 S/F	1322.0	1323.5	2.8	9.0	4.5		
	1470	POTS	1 S	1322.5	1323.4	1.5	3.7			
	3000	POTS	3 S	1322.6	1323.3	1.4	13			
	8400	BERN	1	1322.8	1323.1	4.0	20.0			
	10400	BERN	1	1322.8	1323.1	4.0	14.0			
	9500	POTS	3 S	1323.0	1324.0	2.0	15			
	234	POTS	4 S/F	1409.5	1409.8	1.1	950	150		
	930	BORD	8 S	1412.3	1412.3	.2	36	1		
	2800	OTTA	22 GRF	1738.0	1741	20.0	3.0	1.8		
	2800	OTTA	21 GRF	1802.0	1818	55.0	3.8	2.0		
	9400	HUAN	20 GRF	1803.0	1815.0	31.1	8.6	4.0		0
	2800	OTTA	3 S	1813.0	1815	3.5	11.2	5.6		
	2695	PENT	260 FAL	2010.0	2020	10.0	-3.6	-1.8		
	2695	PENT	20 GRF	2105.0	2120	25.0	3.6	2.0		
	2695	PENT	21 GRF	2140.0	2200	40.0D	9.0			
	9400	HUAN	20 GRF	2147.0	2203.7	36.8	15.6	12.2		0
	2695	PENT	3 S	2153.0	2154.5	3.0	12.4			
05	260	ONDR	44 NS	0835.0E		307.0D	29			
	3100	CRIM	20 GRF	0916.0	0942.0	116.0	10	3		
	9500	POTS	1 S	1325.4	1325.6	1.1	10			
	1470	POTS	3 S	1325.5	1325.7	1.0	8.9			
	3000	POTS	3 S	1325.5	1325.8	1.0	21			
	113	POTS	41 F	1332.0	1332.2	.2	400	35		
	2800	OTTA	23 GRF	1420.0	1602	200.0	11.4	6.4		
	9400	HUAN	20 GRF	1424.7	1519.2	122.5	7.1	2.9		0
	9400	HUAN	20 GRF	1653.1	1721.8	53.7	5.4	4.2		R
	2695	PENT	1 S	1706.5	1708	3.0	3.6	2.0		
	2800	OTTA	24 R	1750.0	1825	40.0	7.6	3.8		
	2800	OTTA	27F RF	1750.0		220.0	7.6	5.8		
	2800	OTTA	24P R	1825.0		120.0	7.6			
	2800	OTTA	26 FAL	2025.0	2125	60.0	-7.6	-3.8		
06	260	ONDR	44 NS	0812.0E		330.0D	40			
	202	IZMI	5 S	0723.0	0723.2	1.0	380	200		
	234	POTS	4 S/F	0723.2	0723.5	.8	100	10		
	113	POTS	8 S	0723.5	0723.5	.1	300	100		
	930	BORD	8 S	1227.8	1227.9	.2	25	1		
	113	POTS	8 S	1301.5	1301.5	.1	120	40		
	930	BORD	8 S	1523.0	1523.1	.2	35	1		
	930	BORD	8 S	1547.3	1547.3	.1	16	1		

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					UT	UT	MINUTES	PEAK	MEAN		
06	2800	OTTA	20	GRF	1715.0E	1724	45.0D	7.6			
	9400	HUAN	20	GRF	1721.3	1732.5	29.5	13.0	9.6		0
07	260	ONDR	44	NS	0810.0E		330.0D	22			
	1415	MANI	4	S/F	0151.7	0153.2	3.1	14.6	4.9		
	2695	MANI	4	S/F	0152.0	0152.9	2.0	24.8	8.3		
	4995	MANI	1	S	0152.0	0152.9	2.6	5.4	2.1		
	234	POTS	41	F	0756.7	0756.7	.5	360	1		
	113	POTS	41	F	0756.8	0756.8	.5	700	70		
	7000	SAOP	3	S	1138.0	1139.0	8.0	11.0			20R
	6100	KISV	8	S	1138.0	1139	4.0	6			
	2800	OTTA	20	GRF	1420.0	1445	100.0	8.6	4.0		
	7000	SAOP	40	F	1432.0		253.0				
	9400	HUAN	20	GRF	1442.8	1456.0	33.3	5.2	2.1		0
	2800	OTTA	20	GRF	1910.0	1945	80.0	3.2	2.0		
08	127	TORN	43	NS	0808.5	1447.2	344.0	130	.1		V1
	260	ONDR	44	NS	0810.0E		348.0D	165	10		
	200	HIRA	44	NS	2137.0E	0340	600.0D	25	10		MR
	5730	IRKU			0520.0	0522.0		18			0
	5730	IRKU	23	GRF	0520.0	0521.3	10.0	13	10		0
	100	HIRA	42	SER	0530.0	0532.6	3.0	220			
	202	IZMI	41	F	1020.2	1024.0	14.3	600			
	127	TORN	42	SER	1020.4	1025.2	14.4	119			
	234	POTS	42	SER	1020.5	1024.5	14.0	580			
	113	POTS	42	SER	1021.0	1034.3	14.0	250			
	9400	HUAN	20	GRF	1139.0	1150.5	27.3	3.6	2.9		0
	7000	SAOP	40	F	1251.0		288.0				
	29	UPIC	2	S/F	1325.0	1325.5	.7				
	33	UPIC	2	S/F	1325.6	1326.2	1.0				
	2800	OTTA	22	GRF	1340.0	1650	285.0	12.2	8.2		
	234	POTS	4	S/F	1346.6	1346.8	.8	1900	400		
	113	POTS	4	S/F	1346.6	1346.8	1.1	800	70		
	7000	SAOP	40	F	1827.0		45.0				
	9400	HUAN	21	GRF	1910.7	1925.3	23.1	5.4	4.0		0
	7000	SAOP	45	C	1921.5	1922.7	3.2	21.0			10L
	9400	HUAN	2	S/F	1922.0	1922.7	2.5	12.6	5.0		L
	2800	OTTA	1	S	1922.5	1922.9	1.5	3.8	1.8		
09	100	HIRA	43	NS	0222.0	0415	220.0	22	5		
	100	GORK	43	NS	0645.0		75.0		5		
	127	TORN	43	NS	0652.0	1152.0	304.0	50	.1		V1
	260	ONDR	44	NS	0810.0E		334.0D	24	2		
	200	HIRA	44	NS	2142.0E	0140	600.0D	10	5		WR
	100	HIRA	46	C	0349.8	0352.4	3.6	9500	1360		
	200	HIRA			0351.8	0355.9		1800			WL
	200	HIRA	42	SER	0351.8	0352.8	5.0	2400			WL
	200	HIRA			0351.8	0353.8		1100			WL
	100	HIRA	7	C	0353.5	0353.7	3.0	5500	460		
	113	POTS	8	S	0733.8	0733.8	.1E	100	30		
	3100	CRIM	24	R	0821.0	0930.0		22			
	113	POTS	41	F	0945.9	0946.0	.7	150	2		
	113	POTS	42	SER	1153.0	1153.0	3.2	200	1		
	127	TORN	7	C	1214.5	1215.5	2.0	44	15		
	113	POTS	46	C	1254.9	1256.6	2.2	900	35		
	536	ONDR	2	S/F	1255.2	1256.3	3.0	15	4.6		
	260	ONDR	4	S/F	1255.2	1256.3	2.0	192	34		
	808	ONDR	2	S/F	1255.7	1256.3	1.5	20	2		
	234	POTS	4	S/F	1255.8	1256.6	1.1	950	50		
	930	BORD	46	C	1256.0	1256.5	1.3	46	3		
	127	TORN	48	C	1355.5	1356.5	2.2	407	162		
	7000	SAOP	40	F	1411.0		7.0				
	7000	SAOP	40	F	1453.0		238.0				
	930	BORD	41	F	1453.0	1454.6	2.0	46	5		
	2800	OTTA	22	GRF	1630.0	1638	50.0	6.8	2.3		
	9400	HUAN	21	GRF	1630.7	1654.2	54.8	7.8	4.3		0
	9400	HUAN	1	S	1637.0	1638.1	1.7	4.7	3.0		0
10	260	ONDR	44	NS	0842.0E		304.0D	84	5		
	202	IZMI	7	C	0857.5	0858.5	2.2	260	100		
	260	ONDR	4	S/F	1142.0	1142.8	1.5	202	34		
	2800	OTTA	8	S	1603.0	1603.2	.4	205.0			
	9400	HUAN	2	S/F	1946.4	1947.8	4.3	5.0	2.7		0
11	127	TORN	43	NS	0810.0	1311.6	310.0	165	.1		V1
	260	ONDR	44	NS	0835.0E		195.0D	57	3		
	100	HIRA	46	C	0827.4	0827.8	1.0	180	50		
	100	HIRA	46	C	0834.0	0835.0	2.8	2900	390		
	200	HIRA	46	C	0834.4	0835.2	1.8	70	18		WL
	1415	MANI	1	S	0333.8	0334.6	1.2	7.6	2.5		
	4995	MANI	4	S/F	0333.8	0334.3	1.2	27.7	9.2		
	606	MANI	4	S/F	0333.8	0334.6	1.4	13.2	4.4		
	2695	MANI	3	S	0333.8	0334.5	2.2	10.8	3.6		
	8800	MANI	4	S/F	0333.8	0334.3	1.2	33.6	11.2		III
	700	SYDN	2	S	0334.0	0334.9	2.0				

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				UT	UT	MINUTES	PEAK	MEAN		
11	3100	CRIM	1 S	0837.2	0837.6	1.0	16	4		
	127	TORN	7 C	0837.2	0838.0	1.2	57	21		
	127	TORN	48 C	1034.2	1036.7	6.0	265	26		
	202	IZMI	41 F	1035.2	1037.0	4.8	90			
	3100	CRIM	1 S	1037.0	1041.5	6.0	8	3		
	930	BORD	8 S	1238.4	1238.4	.1	32	1		
	930	BORD	46 C	1258.0	1258.8	2.0	26	4		
	930	BORD	46 C	1336.0	1339.8	6.0	130	10		
	9400	HUAN	20 GRF	1336.1	1359.2	40.7	8.8	3.3		0
	2800	OTTA	21 GRF	1338.0		152.0	10.0	8.0		
	930	BORD	46 C	1355.0	1401.3	8.0	72	16		
	2650	DWIN	45 C	1356.0	1357	2.0	45	20		
	2800	OTTA	2 S/F	1356.4	1357.6	1.6	8.4	4.2		
	2800	OTTA	2 S/F	1431.5	1432.2	1.5	3.2			
	2800	OTTA	1 S	1530.9	1531	1.0	3.6	1.6		
	2800	OTTA	20 GRF	1615.0	1725	95.0	4.0	2.0		
	2800	OTTA	8 S	1812.3	1812.3	.1	7.8			
	9400	HUAN	1 S	1944.0	1944.6	1.7	7.0	5.7		0
12	127	TORN	43 NS	0722.0	1123.5	244.0	25	.1		V0
	260	ONDR	44 NS	0940.0E		239.0D	74			
	200	HIRA	46 C	0124.0	0125.0	2.0	300	80		WL
	100	HIRA	46 C	0124.2	0125.3	2.6	470	140		
	9100	GORK	21 GRF	0831.8	0841.8	25.0	8	3		
	3100	CRIM	1 S	0843.0	0843.5	1.0	7	2		
	6100	KISV	28 PRE	0843.0	0853.3		2			
	10400	BERN	3	0852.1	0853.8	3.0	20.0			OPR
	9500	POTS	3 S	0853.0	0853.8	2.0	17			
	6100	KISV	8 S	0853.3	0853.7	1.0	26			
	9100	GORK	1	0853.8	0854.0	1.1	22	11		
	6100	KISV	29 PBI	0854.3	0854.5	26.0	2			
	930	BORD	41 F	0921.0	0922.3	1.4	35	2		
	113	POTS	42 SER	1003.1	1003.2	9.7	200			
	127	TORN	42 SER	1003.6	1009.6	11.1	114			
	202	IZMI	41 F	1011.0	1013.5	4.0	125			
	930	BORD	41 F	1016.8	1017.8	1.0	21	2		
	113	POTS	8 S	1124.0	1124.0	.1	200	70		
	9400	HUAN	20 GRF	1314.6	1355.8	62.0	4.9	2.0		0
	9400	HUAN	1 S	1424.1	1424.8	1.7	6.6	2.5		0
	9400	HUAN	20 GRF	1442.0	1503.0	27.4	4.9	2.1		0
	930	BORD	46 C	1447.0	1447.5	1.0	37	10		
	9400	HUAN	2 S/F	1551.8	1552.5	1.5	11.5	7.9		R
	2800	OTTA	20 GRF	1614.0	1617	25.0	2.6	1.3		
	9400	HUAN	21 GRF	1703.5	1721.4	35.9	36.1	12.2		R
	2695	PENT	4 S/F	1704.5	1706.5	5.0	21.4	7.0		
	9400	HUAN	1 S	1705.5	1706.5	2.7	11.5	4.9		R
	7000	SAOP	41 F	1706.0						TWO BURSTS
	7000	SAOP	3 S	1706.0	1706.5	1.6	19.0			17R
	9400	HUAN	4 S/F	1713.7	1714.7	3.7	555.0	184.7		L
	7000	SAOP	4 S/F	1713.9	1714.8	1.8	510.0			0
	2800	OTTA	3 S	1714.0	1714.9	4.0	99.0	17.0		
	2800	OTTA	21 GRF	1900.0	1915	60.0	3.2	2.4		
	2800	OTTA	8 S	1938.5	1938.7	.5	2.6	1.3		
13	200	GORK	44 NS	0624.0E		306.0D		5		
	100	GORK	44 NS	0630.0E		300.0D		5		
	127	TORN	43 NS	0806.0	1128.2	246.0	84	.7		V1
	260	ONDR	44 NS	0810.0E		328.0D	64	4		
	200	HIRA	44 NS	2142.0E	0259	600.0D	15	5		WL
	100	HIRA	44 NS	2142.0E	0252	600.0D	55	34		
	3100	CRIM	21 GRF	0739.0	0859.0		37	12		
	9100	GORK	1 S	0746.2	0746.7	1.8	9	4.5		
	234	POTS	42 SER	0755.5	0757.1	3.5	300			
	6100	KISV	24 R	0815.0	0858	44.0	-13			
	2950	GORK	21 GRF	0833.8	0848.2	41.4	5.5	3		
	9100	GORK	21 GRF	0837.0	0853.7	44.0	8	4		
	6100	KISV	4 S/F	0859.0	0859.7	4.0	64			
	10400	BERN	3	0859.2	0900.8	6.0	60.0			OPR
	536	ONDR	2 S/F	0900.0	0900.7	2.0	17	2		
	1470	POTS	3 S	0900.0	0901.0	2.0	8.7			
	9100	GORK	3 S	0900.0	0908.0	2.1	100	50		
	9500	POTS	3 S	0900.0	0900.6	2.0	97			
	950	GORK	1 S	0900.0	0901.0	1.6	4	2		
	2950	GORK	1 S	0900.0	0909.0	2.2	24	12		
	3100	CRIM	3 S	0900.0	0900.6	2.0	30	10		
	650	GORK	1 S	0900.2	0900.7	1.2	3.5			
	234	POTS	41 F	0900.2	0902	2.0	100	5		
	100	GORK		0900.2	0902.3		70			
	100	GORK	41 F	0900.2	0900.3	2.5	70			
	100	GORK		0900.2	0901.9		70			
	113	POTS	42 SER	0900.3	0901.8	1.5	200	5		
	202	IZMI	5 S	0901.0	0901.5	1.0	430	200		
	200	GORK	4 SF	0901.5	0902.0U	1.5	20	D		
	536	ONDR	45 C	0919.0	0920.3	2.5	84	18		
	650	GORK		0919.3	0920.5		42			

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					UT	UT	MINUTES	PEAK	MEAN		
13	650	GORK	45	C	0919.3	0919.5	1.2	13			
	536	ONDR	46	C	0935.2	0936.0	6.5	260	83		
	950	GORK	2	SF	0935.5	0937.2	6.6	16			
	650	GORK	4	SF	0935.6	0938.5	4.2	336			
	930	BORD	41	F	0936.0	0937.1	3.0	24	5		
	1470	POTS	4	S/F	0936.5	0937.6	3.0	198			
	100	GORK			1018.7	1022.0		80 D			
	100	GORK	45	C	1018.7	1020.2	4.0	80			
	200	GORK	4	SF	1019.7	1020.3	1.2	30 D			
	930	BORD	41	F	1048.0	1049.1	6.0	17	4		
	200	GORK	4	SF	1117.0	1117.4	1.0	30 D			
	260	ONDR	8	S	1314.7	1314.7	.3	210 D			
	7000	SAOP	45	C	1350.0	1350.9	1.4	185.0			6L
	9500	POTS	3	S	1350.0	1351	2.5	126			
	3000	POTS	3	S	1350.0	1351	2.0	95			
	1470	POTS	3	S	1350.0	1351	3.0	71			
	930	BORD	46	C	1350.0	1351	3.0	96	8		
	9400	HUAN	4	S/F	1350.1	1350.8	5.4	109.3	42.8		L
	2800	OTTA	3	S	1350.2	1351	3.0	119.0	30.0		
	8400	BERN	4		1350.3	1351.9	8.0	120.0			OPR
	10400	BERN	4		1350.3	1351.9	8.0	90.0			OPR
	234	POTS	45	C	1350.5	1351.0	3.8	3100	200		
	113	POTS	45	C	1350.6	1353.1	14.0	15000	35		
	2695	PENT	21	GRF	2057.0	2115	35.0	4.0	2.4		
	2695	PENT	1	S	2100.0	2101.6	3.0	6.5	3.3		
14	127	TORN	43	NS	0720.0	0837.2	366.0	75	1.1		V1
	260	ONDR	44	NS	0813.0E		357.0D	206	12		
	536	ONDR	43	NS	0814.0		383.0	45			
	100	GORK	44	NS	0900.0E		154.0D		5		
	4995	MANI	3	S	0201.5	0201.9	1.5	12.1	4.0		
	8800	MANI	3	S	0201.5	0201.8	1.1	21.5	7.2		
	1415	MANI	1	S	0201.5	0201.8	.7	3.5	1.2		
	2695	MANI	1	S	0201.6	0202.0	.9	5.0	1.7		
	606	MANI	1	S	0201.7	0201.8	.4	5.7	1.9		
	35000	NAGO	5	S	0207.0	0207	1.0	11			
	35000	NAGO	5	S	0209.0	0210	3.0	43			
	35000	NAGO	29	PBI	0212.0	0212	4.0	10			
	1400	SYDN	8	S	0307.4	0308.2	1.4				
	700	SYDN	4	S	0307.5	0309.0	1.9				
	1415	MANI	4	S/F	0307.5	0308.4	1.7	99.1	33.0		
	1400	SYDN	45	C	0405.5	0410.2	10.5				
	700	SYDN			0405.5	0409.5D					
	700	SYDN	48	C	0405.5	0406.8	15.5				
	500	HIRA	45	C	0405.6	0410.6	17.5	300	100		
	606	MANI	47	GB	0405.9	0410.7	17.3	913.9	304.6		
	4995	MANI	4	S/F	0406.0	0407.3	6.5	50.3	16.7		
	1415	MANI	4	S/F	0406.1	0410.3	9.2	41.3	13.8		
	8800	MANI	4	S/F	0406.1	0407.3	5.9	145.3	48.4		III
	2695	MANI	4	S/F	0406.5	0410.3	8.5	62.3	20.7		
	100	HIRA	45	C	0406.8	0406.9	1.2	3600	1200		
	6100	KISV	4	S/F	0612.0	0613	6.0	135			
	100	HIRA	45	C	0612.3	0613.4	4.0	40000	2200		
	200	HIRA	45	C	0612.3	0613.8	2.2	1000	220		WR
	2695	MANI	4	S/F	0612.3	0613.6	3.5	107.1	35.7		
	1415	MANI	4	S/F	0612.6	0613.9	5.4	23.6	7.9		
	4995	MANI	4	S/F	0612.6	0613.6	3.2	247.2	82.4		
	606	MANI	4	S/F	0612.7	0613.9	5.3	39.6	13.2		
	8800	MANI	4	S/F	0612.9	0613.7	1.7	150.6	50.2		III
	100	HIRA	42	SER	0617.0	0620.4	4.0	800			
	6100	KISV	1	S	0723.0	0724	3.0	3			
	930	BORD	41	F	0811.2	0811.2	.2	84	2		
	606	MANI	4	S/F	0813.9	0814.5	1.3	24.9	8.3		
	202	IZMI	8	S	0826.0	0826.0	.3	280	170		
	650	GORK	41	F	1016.8	1017.2	4.2	30			
	650	GORK			1016.8	1019.8		37			
	930	BORD	41	F	1017.0	1019.6	2.6	30	2		
	100	GORK	8	S	1035.3	1035.6	1.0	75 D			
	7000	SAOP	41	F	1046.0						TWO BURSTS
	7000	SAOP	20	GRF	1046.0			8.0			0
	2950	GORK	1	S	1055.3	1057.4	4.1	19.5	10		
	7000	SAOP	45	C	1055.5	1057.0	2.0	112.0			0
	9400	HUAN	3	S	1055.7	1057.0	3.1	130.1	29.4		0
	29	UPIC	2	S/F	1056.1U	1056.8	1.5				
	127	TORN	4	S/F	1056.1	1057.2	3.5	185	93		
	10400	BERN	4		1056.2	1057.1	6.0	90.0			OPR
	8400	BERN	4		1056.2	1057.1	6.0	140.0			OPR
	100	GORK	8	S	1056.3		3.1	80 D			
	9100	GORK	4	SF	1056.4	1057.2	2.5	102	50		
	3100	CRIM	1	S	1056.5	1057.0	2.0	20	6		
	234	POTS	4	S/F	1056.5	1057.2	1.0	2500	40		
	9500	POTS	4	S/F	1056.5	1057.0	3.5	86			
	113	POTS	4	S/F	1056.5	1057.1	1.7	7000	1400		
	202	IZMI	45	C	1056.5	1058.0	1.5	1900	1000		
	950	GORK	20	GRF	1056.6	1057.5	8.0	17.5			

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
14	33	UPIC	4	S/F	1056.6	1056.9	3.0				
	930	BORD	3	S	1056.6	1057.3	4.4	27	13		
	808	ONDR	3	S	1056.6	1057.5	5.0	18	10		
	650	GORK	4	SF	1057.0	1059.1	6.0U	24			
	1470	POTS	4	S/F	1057.0	1057.5	5.0	30			
	650	GORK			1117.1	1123.8		59			
	650	GORK	46	C	1117.1	1119.9	13.9U	400			
	808	ONDR	2	S/F	1118.5	1119.6	1.5	55	7		
	950	GORK	2	SF	1119.4	1120.1	.9	23			
	100	GORK	8	C	1119.5	1119.7	.6	65			
	930	BORD	46	C	1139.2	1139.7	.8	57	8		
	930	BORD	41	F	1241.3	1241.7	.4	16	2		
	7000	SAOP	45	C	1257.0	1300.5	26.0	50.0			5L
	930	BORD	41	F	1259.0	1300.6	5.0	180	5		
	9400	HUAN			1259.1	1300.8		37.2			
	9400	HUAN	4	S/F	1259.1	1259.8	6.2	33.4	18.8		L
	9400	HUAN			1259.1	1302.8		39.0			
	10400	BERN	45		1259.2	1302.7	5.0	30.0			OPR
	3000	POTS	3	S	1259.3	1300.9	4.7	25			
	808	ONDR	45	C	1259.4	1300.4	6.0	52	6		
	1470	POTS	40	F	1259.5	1301.0	4.5	9.0			
	9500	POTS	40	F	1259.5	1301.0	8.5	27			
	9400	HUAN	29	PBI	1305.3	1305.3	24.5	7.4	3.2		0
	930	BORD	8	S	1314.6	1314.7	.2	51	2		
	9400	HUAN	20	GRF	1452.5	1455.2	13.3	9.3	3.1		0
	2800	OTTA	4	S/F	1532.0	1533.5	3.0	15.0	7.0		
	7000	SAOP	45	C	1532.4	1533.8	1.6	23.0			13L
	930	BORD	41	F	1533.0	1533.8	1.2	30	4		
	9400	HUAN	20	GRF	1533.2	1558.8	50.6	7.4	3.2		0
	2800	OTTA	29	PBI	1535.0	1535	10.0	4.6	2.3		
	2800	OTTA	21	GRF	1552.0	1558	18.0	3.8	2.0		
	2800	OTTA	1	S	1557.0	1557.3	1.0	6.2	3.1		
	9400	HUAN	21	GRF	1649.8	1703.0	28.7	11.1	4.4		0
	2800	OTTA	1	S	1657.0	1658	2.0	2.4	1.2		
	9400	HUAN	1	S	1657.3	1658.1	1.7	13.0	4.1		0
	7000	SAOP	4	S/F	1759.0	1801.0	3.6	297.0			1R
	9400	HUAN	4	S/F	1759.4	1801.6	2.8	458.9	211.2		L
	2800	OTTA	45	C	1759.5	1800.7	10.5	18.5	4.9		
	9400	HUAN	29	PBI	1802.2	1802.2	33.6	96.6	41.8		0
	2800	OTTA	29	PBI	1810.0	1810	40.0	6.2	1.6		
	2695	PENT	1	S	2057.0	2058.2	3.0	4.6	2.0		
15	200	HIRA	43	NS	0300.0	0510	250.0D	25	5		ML
	100	HIRA	43	NS	0446.0	0540	130.0D	35	27		
	200	GORK	44	NS	0605.0E		295.0D		5		
	100	GORK	44	NS	0712.0E		230.0D		5		
	127	TORN	43	NS	0726.0	1011.2	394.0	26	.2		V0
	260	ONDR	44	NS	0820.0E		333.0D	21			
	6100	KISV	4	S/F	0701.0	0708.5	10.0	6			
	9400	HUAN	2	S/F	1154.6	1154.8	1.2	11.4	5.1		0
	113	POTS	41	F	1206.6	1207.6	1.6	100	1		
	9400	HUAN	22	GRF	1246.5	1307.0	36.3	6.5	4.1		L
	7000	SAOP	1	S	1700.0	1701.5		10.0			0
	2800	OTTA	8	S	1701.0	1701.3	.8	3.0	1.5		
16	200	GORK	44	NS	0630.0E		289.0D		5		
	100	GORK	43	NS	0714.0		240.0		5		
	260	ONDR	44	NS	0803.0E		364.0D	30			
	5730	IRKU	23	GRF	0338.2	0339.7	5.0	22	8		R
	2695	MANI	3	S	0628.3	0628.8	2 [illegible]	16.1	5.3		
	1415	MANI	3	S	0628.3	0628.8	[illegible]	11.3	3.8		
	606	MANI	4	S/F	0628.3	0628.4	.7	15.6	5.2		
	4995	MANI	1	S	0628.3	0628.5	.7	5.9	2.0		
	100	GORK			0643.0	0645.2		50 D			
	100	GORK	41	F	0643.0	0643.4U	2.5	50 D			
	9100	GORK	4	SF	0651.2	0652.1	2.3	47	20		
	650	GORK	4	SF	0651.3	0652.0U	1.2	128			
	2950	GORK	3	S	0651.4	0652.0	3.7	38	17		
	3100	CRIM	3	S	0651.5	0652.5	2.0	36	12		
	5730	IRKU	2	S	0651.5	0652.2	6.0	32	8		0
	950	GORK	2	SF	0651.6	0652.0	3.0	9			
	2695	MANI	4	S/F	0652.1	0653.1	5.9	43.7	14.5		
	4995	MANI	4	S/F	0652.2	0653.2	5.8	72.5	24.1		
	8800	MANI	4	S/F	0652.2	0653.2	2.9	54.9	18.3		
	606	MANI	4	S/F	0652.3	0653.1	2.1	68.2	22.7		
	6100	KISV	8	S	0652.5	0653.3	5.0	42			
	1415	MANI	4	S/F	0652.8	0653.1	3.8	26.0	8.7		
	234	POTS	4	S/F	0734.8	0735.0	.5	480	100		
	200	GORK	41	F	0824.0	0824.3	3.1	30			
	200	GORK			0824.0	0827.7		140			
	100	GORK	8	S	0825.8	0826 U	.9	70 D			
	6100	KISV	1	S	0826.0	0826.5	3.0	3			
	650	GORK	4	SF	0826.0	0826.5	.7	214			
	930	BORD	41	F	0826.0	0826.3	1.0	59	2		
	950	GORK	2	SF	0826.0	0826.2	.6	11			

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
16	113	POTS	4 S/F	0826.1	0826.6	.8	700	70		
	2950	GORK	1 S	0826.1	0826.3	1.1	2	1		
	9100	GORK	1 S	0826.2	0826.3	1.2	5.5	2.5		
	930	BORD	45 C	0829.2	0830.7	14.8	1531	400		
	536	ONDR	8 S	0926.6	0926.6	.3	53			
	536	ONDR	2 S/F	1017.6	1018.3	1.5	18	2		
	100	GORK	41 F	1036.0	1036.2U	6.9	70 D			
	200	GORK	41 F	1036.0	1036.2	7.7	40			
	100	GORK		1036.0	1042.5U		70 D			
	200	GORK		1036.0	1042.2		40 D			
	113	POTS	42 SER	1036.1	1042.2	7.5	250	2		
	9400	HUAN	2 S/F	1400.0	1400.8	2.0	11.1	4.4		0
	2800	OTTA	1 S	1400.0	1401	3.0	7.6	2.6		
	536	ONDR	3 S	1400.8	1400.8	.2	36			
	2800	OTTA	21 GRF	1540.0	1618	70.0	5.6	2.0		
	7000	SAOP	3 S	1614.5	1615.6	4.0	16.0			0
	2800	OTTA	3 S	1614.8	1615.7	2.7	19.0	6.4		
	9400	HUAN	2 S/F	1837.7	1838.5	2.6	19.1	5.3		R
	7000	SAOP	3 S	1838.6E	1838.6	1.4	12.0			11R
	2800	OTTA	1 S	1848.5	1849	1.0	2.0	1.0		
	9400	HUAN	22 GRF	1912.7	1915.8	44.1	6.4	2.2		0
17	200	HIRA	43 NS	0004.0	0114	76.0	10	5		WL
	200	HIRA	43 NS	0305.0	0455	250.0D	55	15		ML
	200	GORK	44 NS	0612.0E		327.0D		10		
	202	IZMI	43 NS	0700.0		300.0	60			
	100	GORK	43 NS	0708.0		109.0		10		
	260	ONDR	44 NS	0820.0E		349.0D	162	10		
	127	TORN	43 NS	1000.0	1343.5	260.0	22	.1		V0
	100	GORK	43 NS	1000.0		62.0		5		
	200	HIRA	44 NS	2142.0E	2319	600.0D	70	25		ML
	100	HIRA	43 NS	2308.0	0036	230.0	80	24		
	9100	GORK	40 F	0619.0E	0753.4	120.0D	16			
	650	GORK	40 F	0630.0E		135.0	5			
	202	IZMI	46 C	0756.2	0757.0	2.5	730	500		
	234	POTS	4 S/F	0826.8	0826.8	.2	450	100		
	536	ONDR	41 F	0953.0	1013.7	67.0	17	3		
	6100	KISV	27 R	1034.0	1036	33.0	3			
	234	POTS	41 F	1043.7	1044.0	.8	3[illegible]	5		
	202	IZMI	41 F	1046.0	1048.0	2.0	5 J			
	930	BORD	8 S	1050.4	1050.4	.2	29	1		
	3100	CRIM	26 FAL	1052.0	1219.0		14			
	234	POTS	42 SER	1211.0	1234	29.0	480			
	234	POTS	4 S/F	1323.3	1323.4	.1	340	80		
	234	POTS	4 S/F	1337.7	1337.8	.2	240	60		
	9400	HUAN	20 GRF	1527.8	1542.3	51.2	8.7	3.2		R
	2800	OTTA	20 GRF	1530.0	1545	55.0	3.0	2.2		
18	200	GORK	44 NS	0629.0E		301.0D		30		
	202	IZMI	43 NS	0700.0		300.0	75			
	100	GORK	44 NS	0708.0E		230.0D		20		
	127	TORN	43 NS	0802.0	0846.5	220.0	36	.9		V0
	260	ONDR	44 NS	0825.0E		323.0D	101	17		
	200	HIRA	44 NS	2142.0E	0415	600.0D	35	10		ML
	100	HIRA	44 NS	2142.0E	2254	460.0D	60	27		
	5730	IRKU	1 S	0315.0	0315.4	3.0	18			L
	650	GORK	3 S	0745.1	0745.8	1.9	8	4		
	234	POTS	4 S/F	0834.3	0834.5	.4	250	60		
	234	POTS	42 SER	0953.4	0953.4	5.0	380			
	234	POTS	42 SER	1041.5	1041.6	6.3	400			
	930	BORD	8 S	1047.7	1047.8	.2	19	1		
	9400	HUAN	20 GRF	1342.6	1410.2	58.1	10.4	4.7		0
	930	BORD	8 S	1409.6	1409.6	.1	15	1		
	930	BORD	41 F	1415.0	1416	1.5	27	3		
	930	BORD	8 S	1522.3	1522.4	.2	18	1		
	9400	HUAN	1 S	1807.4	1808.5	2.6	6.9	4.1		0
	9400	HUAN	28 PRE	1840.0	1902.6	22.6	5.2	3.1		0
	7000	SAOP	45 C	1900.0	1903.6	6.2	234.0			1L
	2800	OTTA	46F C	1902.0	1903.2	10.0	106.0	19.0		
	9400	HUAN	4 S/F	1902.6	1903.7	7.4	281.3	81.7		L
	9400	HUAN	29 PBI	1910.0	1910.0	38.0	10.4	6.3		0
	2800	OTTA	29 PBI	1912.0	1912	13.0	3.0	2.8		
19	200	GORK	44 NS	0627.0E		305.0D		5		
	260	ONDR	44 NS	0830.0E		300.0D	118	6		
	100	GORK	44 NS	0916.0E		104.0D		5		
	200	HIRA	44 NS	2143.0E	0557	600.0D	15	5		WL
	100	HIRA	44 NS	2143.0E	0530	600.0D	50	30		
	9100	GORK	40 F	0705.1	0705.6	8.0	11			
	6100	KISV	1 S	0721.0	0721.5	1.0	3			
	930	BORD	8 S	0823.1	0823.2	.2	18	2		
	1470	POTS	1 S	0827.0	0827.5	1.0	4.6			
	3000	POTS	4 S/F	0827.0	0827.5	1.5	32			
	650	GORK	2 SF	0827.0	0827.5	1.2	21	7		
	3100	CRIM	3 S	0827.0	0727.5	1.0	30	10		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
19	930	BORD	8 S	0827.0	0827.7	.7	16	2		
	950	GORK	1 S	0827.2	0827.6	1.0	3.4			
	2950	GORK	4 SF	0827.2	0827.6	1.0	33			
	6100	KISV	1 S	0922.0	0923.2	3.0	3			
	2650	DWIN	1 S	0926.0	0927	4.0	45	30		
	10715	DWIN	1 S	0926.0	0927	4.0	50	25		
	202	IZMI	8 S	0951.0	0951.0	.2	385	200		
	234	POTS	8 S	0951.0	0951.0	.2	770	250		
	113	POTS	8 S	0951.0	0951.1	.3	1800	600		
	536	ONDR	42 SER	1018.0	1041.3	84.0	84			
	100	GORK	41 F	1041.3	1041.5	15.2	70 D			
	100	GORK		1041.3	1056.3U		70 D			
	100	GORK		1041.3	1052.2		70 D			
	234	POTS	42 SER	1041.4	1041.5	15.0	250			
	200	GORK		1041.5	1051.4		35			
	200	GORK		1041.5	1056.4		35 D			
	200	GORK	41 F	1041.5	1041.7	15.2	35 D			
	113	POTS	42 SER	1041.5	1041.5	15.0	770			
	930	BORD	8 S	1044.6	1044.8	.4	64	4		
	808	ONDR	3 S	1044.7	1044.7	.2	35			
	1470	POTS	8 S	1044.7	1045.0	.7	31			
	3000	POTS	8 S	1044.7	1045.0	.3	7.9			
	930	BORD	8 S	1048.4	1048.4	.1	43	1		
	930	BORD	8 S	1054.6	1054.6	.2	18	1		
	200	GORK	4 SF	1129.1	1129.3	.9	35 D			
	234	POTS	42 SER	1131.7	1134.8	5.8	200			
	113	POTS	42 SER	1131.8	1137.0	5.6	700	7		
	1470	POTS	8 S	1136.8	1137.0	.4	8.2			
	930	BORD	41 F	1141.5	1141.6	.2	19	2		
	1470	POTS	8 S	1243.1	1243.2	.7	8.8			
	536	ONDR	3 S	1243.2	1243.2	.2	18			
	234	POTS	42 SER	1245.2	1246.4	11.0	140			
	113	POTS	42 SER	1245.3	1254.8	11.0	200			
	930	BORD	41 F	1325.2	1325.3	.4	68	2		
	2800	OTTA	21 GRF	1430.0	1513	80.0	3.8	2.9		
	7000	SAOP	45 C	1519.0	1521.0	5.0	70.0			13L
	930	BORD	41 F	1519.5	1522.3	6.5	23	5		
	2800	OTTA	4 S/F	1520.0	1524.2	7.0	40.0	14.6		
	9400	HUAN	4 S/F	1520.1	1521.0	2.6	56.5	26.3		L
	9400	HUAN	29 PBI	1522.7	1522.7	41.1	8.6	3.9		L
	2800	OTTA	21 GRF	1710.0	1727	60.0	3.8	2.0		
	2800	OTTA	1 S	1745.8	1746	2.0	1.6			
	2800	OTTA	21 GRF	1840.0	1930	112.0	7.0	3.5		
	9400	HUAN	22 GRF	1843.0	1911.2	65.2	24.0	13.8		0
	7000	SAOP	20 GRF	1850.5	1854.2	41.2	22.0			0,TWO BURSTS
	2800	OTTA	4 S/F	1851.0	1854	7.0	15.6	6.0		
	2800	OTTA	3 S	1910.5	1911.8	9.0	17.0	6.0		
	2695	PENT	21 GRF	2203.0	2225	25.0D	8.0			
	9400	HUAN	45 C	2203.1		15.2				R
	500	HIRA	45 C	2204.0	2216.0	38.0	1600	250		MLMR
	2695	PENT	45 C	2204.5	2205.2	2.5	15.2	5.7		
	2695	PENT	47 GB	2209.5	2213	10.0	970.0	244.0		
	100	HIRA	48 C	2209.7	2215.5U	43.0	40000 D	4500 D		
	200	HIRA	48 C	2210.0U	2215	42.0U	6000 U	260 U		WR
	9400	HUAN	29 PBI	2218.3	2218.3	19.3	53.1	32.6		0
20	200	GORK	44 NS	0635.0E		298.0D		5		
	100	GORK	44 NS	0640.0E		140.0D		10		
	127	TORN	43 NS	0726.0	1053.1	417.0	143	3.7		V1
	260	ONDR	44 NS	0930.0E		280.0D	102	15		
	536	ONDR	43 NS	0940.0		220.0	18			
	234	POTS	43 NS	1025.0	1251	215.0D	120			
	200	HIRA	44 NS	2143.0E	0228	600.0D	30	10		WL
	100	HIRA	44 NS	2143.0E	0242	600.0D	100	40		
	4995	MANI	3 S	0012.9	0014.2	3.4	26.3	8.7		
	2695	MANI	3 S	0012.9	0014.2	2.8	23.2	7.7		
	606	MANI	4 S/F	0012.9	0013.9	3.0	34.2	11.4		
	8800	MANI	3 S	0012.9	0014.5	3.4	13.6	4.5		
	1415	MANI	3 S	0013.0	0013.9	3.0	47.0	15.6		
	500	HIRA	4 S/F	0022.0	0023.7	3.0	220	70		MR
	200	HIRA	42 SER	0022.2	0026.5	16.0	600			WR
	100	HIRA	45 C	0022.7	0023.7	3.4	900	390		
	6100	KISV	4 S/F	0608.0	0616.5	14.0	365			
	1415	MANI	4 S/F	0613.2	0616.9	10.2	246.3	82.1		
	2695	MANI	4 S/F	0613.3	0616.9	9.4	184.1	61.4		
	4995	MANI	4 S/F	0613.5	0616.9	9.5	448.2	149.4		
	606	MANI	4 S/F	0614.0	0616.9	6.6	421.2	140.4		
	3100	CRIM	3 S	0614.0	0617.0	7.0	200	67		
	8800	MANI	47 GB	0614.2	0616.9	8.0	881.0	293.7		
	500	HIRA	46 C	0614.2	0618.7	7.0	700	400		WRML
	200	HIRA	48 C	0614.4	0618.7	8.0	8700	1600		WR
	35000	NAGO	5 S	0617.0	0617	5.0	190 U			SUNSET
	100	HIRA	48 C	0619.0	0619.6	16.6	9000	890		
	6100	KISV	29 PBI	0622.0	0622	140.0	12			
	650	GORK	4 SF	0639.5	0640.3U	1.0	120	60		

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
20	606	MANI	8	S	0639.7	0640.2	.8	183.8	61.3		SPIKE
	9100	GORK	22	GRF	0700.3	0712.5	23.0	16			
	200	GORK	4	SF	0706.7	0708.9	6.2	20			
	100	GORK	2	SF	0707.7	0709.1	5.2	120	45		
	950	GORK	2	SF	0707.9	0709.5	3.0	16.6	8		
	6100	KISV	4	S/F	0801.0	0805.3	10.0	8			
	3000	POTS	3	S	0925.5	0927.4	3.0	51			
	10400	BERN	3		0925.6	0926.7	45.0	180.0			OPR
	9100	GORK	3	S	0926.0	0926.7	2.7	170			
	9500	POTS	29	PBI	0926.0	0926.8	39.0	147			
	1470	POTS	1	S	0926.0	0928.0	4.0	4.7			
	6100	KISV	4	S/F	0926.0	0927	5.0	88			
	3100	CRIM	3	S	0926.0	0928.0	3.0	29	10		
	9100	GORK	29	PBI	0928.7	0928.2	71.0	43	20		
	930	BORD	41	F	0935.3	0935.6	.3	18	2		
	6100	KISV	8	S	1021.5	1021.5	1.0	8			
	10400	BERN	21		1037.6	1038.5	10.0	18.0			OPR
	930	BORD	41	F	1104.0	1104.9	1.0	15	2		
	234	POTS	8	S	1242.0	1242.0	.1	340	100		
	113	POTS	8	S	1253.9	1254.0	.1	180	60		
	9400	HUAN	20	GRF	1306.1	1315.5	60.4	15.8	4.5		R
	2800	OTTA	21	GRF	1440.0	1500.5	57.0	4.2	2.2		
	7000	SAOP	45	C	1456.0	1500.4	33.0	60.0			5R
	2800	OTTA	1	S	1504.5	1506	3.0	6.2	3.2		
	2800	OTTA	23	GRF	1540.0	1630	160.0	9.2	4.6		
	7000	SAOP	3	S	1550.0	1606.2	21.0	21.0			0
	2800	OTTA	1	S	1605.8	1606.2	1.0	2.0	1.0		
	2800	OTTA	3	S	1856.0	1856.2	2.0	10.8	2.6		
	7000	SAOP	4	S/F	1856.0	1856.3	.8	34.0			9R
	9400	HUAN	8	S	1856.1	1856.4	.7	24.6	10.9		0
	9400	HUAN	1	S	1945.2	1946.2	2.6	6.6	4.1		0
	2800	OTTA	[illegible]	S/F	1945.6	1946	2.5	7.0	3.0		
	9400	HUAN	20	GRF	2023.3	2033.0	14.3	9.8	7.4		0
	2800	OTTA	4	S/F	2025.0	2027	6.0	13.6	3.5		
	200	HIRA	45	C	2225.4	2225.8	.6	710	260		WR
	100	HIRA	46	C	2225.7	2226.0	.8	12000	2700		
21	200	GORK	44	NS	0636.0E		291.0D		5		
	100	GORK	44	NS	0642.0E		198.0D		10		
	127	TORN	43	NS	0726.0	1028.2	394.0	33	.8		V1,INCOMPLETE
	202	IZMI	43	NS	0815.0		91.0	50			
	260	ONDR	44	NS	0942.0E		248.0D	37	4		
	9100	GORK	1	S	0735.8	0736.2	3.6	10	5		
	3100	CRIM	20	GRF	0742.0	0837.0	122.0	8	3		
	9100	GORK	20	GRF	0810.9	0835.7	78.0	14	7		
	100	GORK	2	SF	0812.0	0812.8	2.3	125			
	200	GORK	24	R	0815.3		84.7				
	9500	POTS	20	GRF	1137.0	1151.5	69.0	11			
	1470	POTS	21	GRF	1138.0	1152.5	21.0	13			
	3000	POTS	21	GRF	1139.0	1151.5	19.0				
	2650	DWIN	21	GRF	1143.0	1152	17.0	25	20		
	7000	SAOP	20	GRF	1143.4	1151.4	24.6	22.0			0,TWO BURSTS
	3100	CRIM	3	S	1145.0	1153.0	15.0	25	8		
	33	UPIC	45	C	1201.3	1202.4	3.5				
	29	UPIC	45	C	1201.8	1202.9	3.1				
	930	BORD	46	C	1334.0	1334.4	1.0	59	7		
	536	ONDR	3	S	1334.2	1334.2	.2	28			
	930	BORD	41	F	1354.4	1354.8	.4	32	2		
	2800	OTTA	21	GRF	1440.0	1605	320.0	10.8	6.0		
	930	BORD	8	S	1454.2	1454.2	.1	22	1		
	930	BORD	46	C	1531.0	1533.2	4.0	30	5		
	2800	OTTA	1	S	1532.0	1533.2	2.0	2.6			
	9400	HUAN	20	GRF	1555.3	1624.6	63.3	8.7	4.6		0
	2800	OTTA			1703.0	1704	1.0D	2.8			
	2800	OTTA	20	GRF	1725.0	1735	20.0	2.8	1.4		
	2695	PENT	8	S	2003.7	2003.9	.6	35.0			
	2695	PENT	20	GRF	2035.0	2055	60.0	3.4	2.0		
22	200	HIRA	44	NS	0000.0E	0148	420.0D	30	5		WL
	200	GORK	44	NS	0627.0E		303.0D		5		
	260	ONDR	44	NS	0856.0E		308.0D	9			
	500	HIRA	45	C	0515.6	0518.0	5.0	25	6		WR
	606	MANI	4	S/F	0515.8	0518.3	4.9	29.5	9.8		
	4995	MANI	4	S/F	0516.3	0518.0	3.3	25.7	8.6		
	2695	MANI	4	S/F	0517.1	0517.3	2.5	17.7	5.9		
	1415	MANI	4	S/F	0517.2	0518.3	3.5	12.3	4.1		
	9400	HUAN	20	GRF	1710.7	1715.0	17.5	6.9	2.4		0
	2800	OTTA	20	GRF	1740.0	1810	80.0	4.4	1.6		
	9400	HUAN	20	GRF	1750.1	1804.5	22.3	5.2	3.6		L
23	200	HIRA	43	NS	0514.0	0615	180.0D	15	5		WL
	200	GORK	44	NS	0626.0E		97.0D		10		
	200	GORK	44	NS	0803.0E		207.0D		5		
	260	ONDR	44	NS	0852.0E		320.0D	6			
	9100	GORK	22	GRF	0721.1	0728.6	21.0	11			

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
23	930	BORD	47 GB	0826.0		25.0	3000 D			
	7000	SAOP	3 S	1229.2	1229.4		11.0			0
	9400	HUAN	20 GRF	1554.5	1603.1	12.4	5.4	2.1		0
	2800	OTTA	1 S	1848.0	1849.2	3.5	7.4	2.5		
	2695	PENT	20 GRF	2000.0	2045	100.0	3.6	2.4		
24	6100	KISV	4 S/F	0622.0	0624	3.0	9			
	6100	KISV	24 R	0625.0			4			
	9100	GORK	20 GRF	0734.7	0813.2	47.7	5	2.5		
	6100	KISV	26 FAL	0800.0	0800	35.0	-4			
	9400	HUAN	20 GRF	1237.7	1245.0	25.4	7.1	3.9		0
	260	ONDR	45 C	1324.5	1325.6	5.0	13	1		
	2800	OTTA	24OAR	1740.0	1825	45.0	3.6	1.8		
	2800	OTTA	1 S	1747.5	1749	6.0	5.4	2.0		
	2800	OTTA	23 GRF	1920.0	2020	180.0D	12.4			
	2800	OTTA	1 S	1947.5	1948.5	2.5	2.6	1.3		
25	100	GORK	43 NS	0748.0		72.0		5		
	260	ONDR	44 NS	0830.0E		310.0D	10			
	200	GORK	43 NS	1014.0		78.0D		5		
	9100	GORK		0655.7	0712.0		125			
	9100	GORK	46 C	0655.7	0704.7	28.2	148			
	950	GORK	46 C	0657.0	0704.5	42.0	50			
	950	GORK		0657.0	0712.0		35			
	2695	MANI	4 S/F	0657.0	0713.7	31.0	145.4	48.5		
	950	GORK		0657.0	0722.8		26			
	4995	MANI	4 S/F	0657.7	0712.3	30.1	163.6	54.5		
	8800	MANI	4 S/F	0657.7	0712.3	30.1	118.0	39.3		
	1415	MANI	4 S/F	0658.0	0712.4	31.0	46.0	15.3		
	3100	CRIM		0658.5	0722.5		72	14		
	3100	CRIM		0658.5	0713.0		200	57		
	3100	CRIM	42 SER	0658.5	0704.5	28.5	100	33		
	2950	GORK		0658.7	0713.3U		132			
	2950	GORK	46 C	0658.7	0704.7	33.0	85			
	2950	GORK		0658.7	0722.7		145			
	606	MANI	4 S/F	0659.7	0712.9	27.6	94.8	31.6		
	650	GORK		0702.3	0722.3		70			
	650	GORK	46 C	0702.3	0703.9	30.7	27			
	650	GORK		0702.3	0712.5		75			
	500	HIRA	46 C	0704.0	0712.7	19.0D	100	25		WR,SUNSET
	200	GORK	4 SF	0707.8	0712.7	6.9	25			
	9100	GORK	30 PBI	0715.9	0716.0	164.0	42			
	200	GORK		0716.2	0724.8		100			
	200	GORK		0716.2	0730.5		75			
	200	GORK	46 C	0716.2	0722.8	20.3	100			
	100	GORK	46 C	0720.5	0725.3	13.4	15			
	100	GORK		0720.5	0730.6		20			
	9100	GORK	1 S	0721.5	0722.2	4.1	9	4.5		
	127	TORN	27 RF	0800.0	0854.0	42.0		7		
	3100	CRIM	26 FAL	0950.0	1230.0		16			
	127	TORN	42 SER	1122.9	1125.8	9.2	8.4			
	9400	HUAN	3 S	1123.6	1124.8	3.3	19.9	7.6		0
	3100	CRIM	1 S	1154.5	1155.0	1.0	5	1		
	930	BORD	41 F	1411.0	1411.4	2.0	23	2		
	2800	OTTA	8 S	1544.0	1544	.7	11.4			
	2695	PENT	1 S	2158.9	2159.2	2.0	9.0	3.0		
26	200	GORK	43 NS	0636.0		204.0D		5		
	500	HIRA	21 GRF	0046.4	0049.7	10.0	8	5		WR
	100	HIRA	48 C	0054.1	0057.8	13.0	12000	1100		
	100	HIRA		0054.1	0104.2		220			
	3100	CRIM	20 GRF	0756.0	0947.0	220.0	6	2		
	7000	SAOP	45 C	1500.0	1513.0	23.0	28.0			11R
	2800	OTTA	3 S	1512.0	1513	3.0	22.0	5.6		
	9400	HUAN	22 GRF	1512.7	1537.3	70.0	8.4	6.0		0
	2800	OTTA	1 S	1837.0	1838	3.0	2.6	1.3		
27	9400	HUAN	22 GRF	1110.8	1204.4	85.3	14.6	7.7		0
	2800	OTTA	21 GRF	1530.0	1610	170.0	4.6	3.2		
	2800	OTTA	1 S	1601.5	1602.2	1.0	2.2	1.1		
	2800	OTTA	3 S	1855.0	1855.3	1.0	21.8	10.9		
	2800	OTTA	20 GRF	1918.0	1919.5	22.0	3.8	1.4		
28	2950	GORK	1 S	0810.4	0810.5	.2	14	7		
	3100	CRIM	20 GRF	0818.5	0822.0	17.0	10	3		
	260	ONDR	2 S/F	0927.5	0928.5	2.0	15	3		
	200	GORK	4 SF	1056.3	1057.4U	1.8	30 D			
	100	GORK	46 C	1056.6	1057.3U	2.4	70 D			
	100	GORK		1056.6	1058.2		70			
	202	IZMI	7 C	1057.0	1057.0	1.5	52	26		
	260	ONDR	42 SER	1057.0	1059	28.0	8			
	113	POTS	41 F	1057.0	1057.2	1.9	200	2		
	113	POTS	4 S/F	1124.9	1125.0	.1	170	35		
	127	TORN	4 S/F	1156.3	1157.4	2.3	300	150		
	127	TORN	4 S/F	1224.6	1225.3	1.1	44	22		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
28	113	POTS	42	SER	1324.6	1331.4	7.3	2100	50		
	234	POTS	4	S/F	1331.3	1331.4	.2	120	40		
	260	ONDR	8	S	1341.3	1341.3	.2	34			
	2800	OTTA	23	GRF	1425.0	1427	45.0	3.0	1.5		
	2800	OTTA	1	S	1429.8	1430	2.0	3.6	1.8		
	2800	OTTA	240	R	1600.0	1623	23.0	4.2	2.0		
	2800	OTTA	22	GRF	1805.0	1830	40.0	2.4	1.2		
	2800	OTTA	1	S	1907.0	1908	3.0	2.6	1.3		
	2800	OTTA	1	S	1913.0	1914	4.5	1.8	.9		
	9400	HUAN	21	GRF	2050.0	2141.3	70.4	29.9	8.1		R
	2695	PENT	20	GRF	2120.0	2127	15.0	2.8	1.2		
	2695	PENT	3	S	2137.0	2138.7	3.0	12.4	7.0		
	9400	HUAN	4	S/F	2137.0	2138.3	2.8	128.5	58.7		R
29	260	ONDR	43	NS	0850.0		287.0D	21			
	606	MANI	8	GB	0842.7	0843.0	.7	525.4	142.0		
	500	HIRA	8	S	0842.9	0843.1	.5	4000	1500		0
	2695	MANI	4	S/F	0208.6	0209.9	3.3	170.8	56.9		
	8800	MANI	3	S	0209.5	0210.0	1.5	27.7	9.2		
	606	MANI	4	S/F	0209.7	0209.8	2.0	28.4	9.4		
	4995	MANI	3	S	0209.7	0210.1	1.2	20.6	6.8		
	1415	MANI	4	S/F	0209.7	0209.9	2.3	79.5	26.5		
	5730	IRKU	2	S	0458.0	0501.2	9.0	38	13		L
	4995	MANI	4	S/F	0458.7	0501.3	5.3	54.0	18.0		
	2695	MANI	3	S	0458.9	0501.3	5.1	31.6	10.5		
	8800	MANI	3	S	0458.9	0501.3	5.5	79.1	26.4		
	5730	IRKU	29	PBI	0506.0		22.0	6			L
	9100	GORK	2	SF	0706.6	0708.8	8.1	24			
	6100	KISV	46	C	0707.5	0710	13.0	15			
	2695	MANI	4	S/F	0707.3	0709.6	5.5	31.6	10.5		
	5730	IRKU			0707.5	0709.7		14			L
	5730	IRKU	23	GRF	0707.5	0708.7	13.0	10			L
	4995	MANI	4	S/F	0708.1	0709.6	2.8	18.0	6.0		
	1415	MANI	4	S/F	0708.1	0712.6	6.2	15.1	5.0		
	606	MANI	4	S/F	0708.1	0712.0	5.1	127.1	42.4		
	2950	GORK	3	S	0708.7	0710.0	2.5	22	11		
	202	IZMI	41	F	0709.7	0709.7	6.0	335			
	950	GORK	1	S	0715.2	0716.3	1.8	3	1.5		
	3100	CRIM	21	GRF	0727.0	0941.0	264.0	13	4		
	6100	KISV	8	S	0830.5	0831	2.0	4			
	930	BORD	41	F	0843.0	0843.4	.5	15	2		
	9500	POTS	3	S	1012.5	1013.5	2.0	15			
	3100	CRIM	1	S	1012.5	1013.5	2.0	4	1		
	113	POTS	4	S/F	1024.3	1024.3	.5	100	20		
	202	IZMI	41	F	1140.5	1140.7	4.5	45			
	2800	OTTA	240	R	1538.0	1543	5.0	4.6	2.0		
	7000	SAOP	27	RF	1538.6		74.0	20.0			0
	9400	HUAN	20	GRF	1539.4	1633.8	91.7	10.6	7.8		0
	2800	OTTA	21	GRF	1600.0	1622	60.0	4.2	1.4		
	2800	OTTA	1	S	1619.0	1620.2	3.0	6.2	2.0		
	7000	SAOP	45	C	1726.5	1735.1	10.6	16.0			16L,TWO BURSTS
	2800	OTTA	2	S/F	1830.5	1832	4.0	7.2	2.6		
	9400	HUAN	2	S/F	1831.8	1832.3	1.4	14.1	8.1		0
30	260	ONDR	44	NS	0820.0E		340.0D	18			
	3100	CRIM	20	GRF	0801.0	0841.0	130.0	8	3		
	9400	HUAN	20	GRF	1127.2	1154.5	45.5	11.8	6.9		0
	7000	SAOP	40	F	1328.0		83.0				
	7000	SAOP	1	S	1710.5	1711.2		9.0			20L
	2800	OTTA	22	GRF	1850.0	1938	75.0	3.0	1.5		
31	260	ONDR	44	NS	0840.0E		330.0D	19			
	6100	KISV	4	S/F	0725.0	0729	10.0	3			
	3100	CRIM	1	S	0728.0	0728.5	1.0	4	1		
	6100	KISV	27	RF	0818.0	0840	42.0	7			
	9100	GORK	20	GRF	0835.2	0939.5	115.0D	9			
	3100	CRIM	1	S	0905.0	0910.0	7.0	7	2		
	6100	KISV	45	C	0906.0	0910.5	24.0	4			
	6100	KISV			0906.0	0924.7		6			
	2950	GORK	21	GRF	0907.3	0910.1	86.0D	6.6	3		
	3100	CRIM	1	S	0919.0	0922.5	5.0	17	6		
	2950	GORK	1	S	0920.3	0922.6	3.9	11.6			
	3100	CRIM	20	GRF	0928.0	0943.0	44.0	10	3		
	2695	PENT	8	S	2044.0	2044.1	.5	3.2	1.6		

Reports are received routinely from the following observatories:

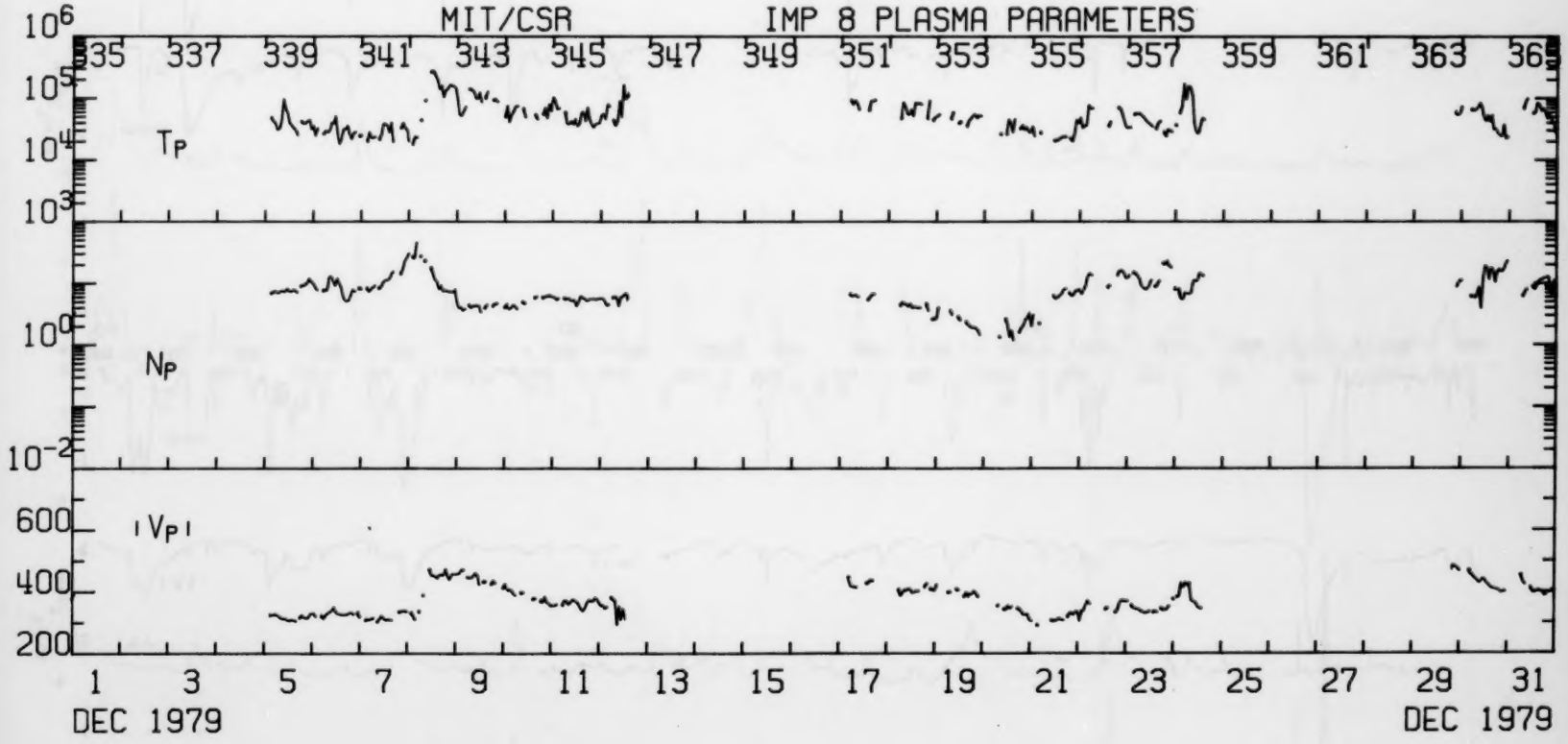
ARCE = Arcetri
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SOAP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice
VORO = Voroshilov

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major

IMP 8 SOLAR WIND PLASMA

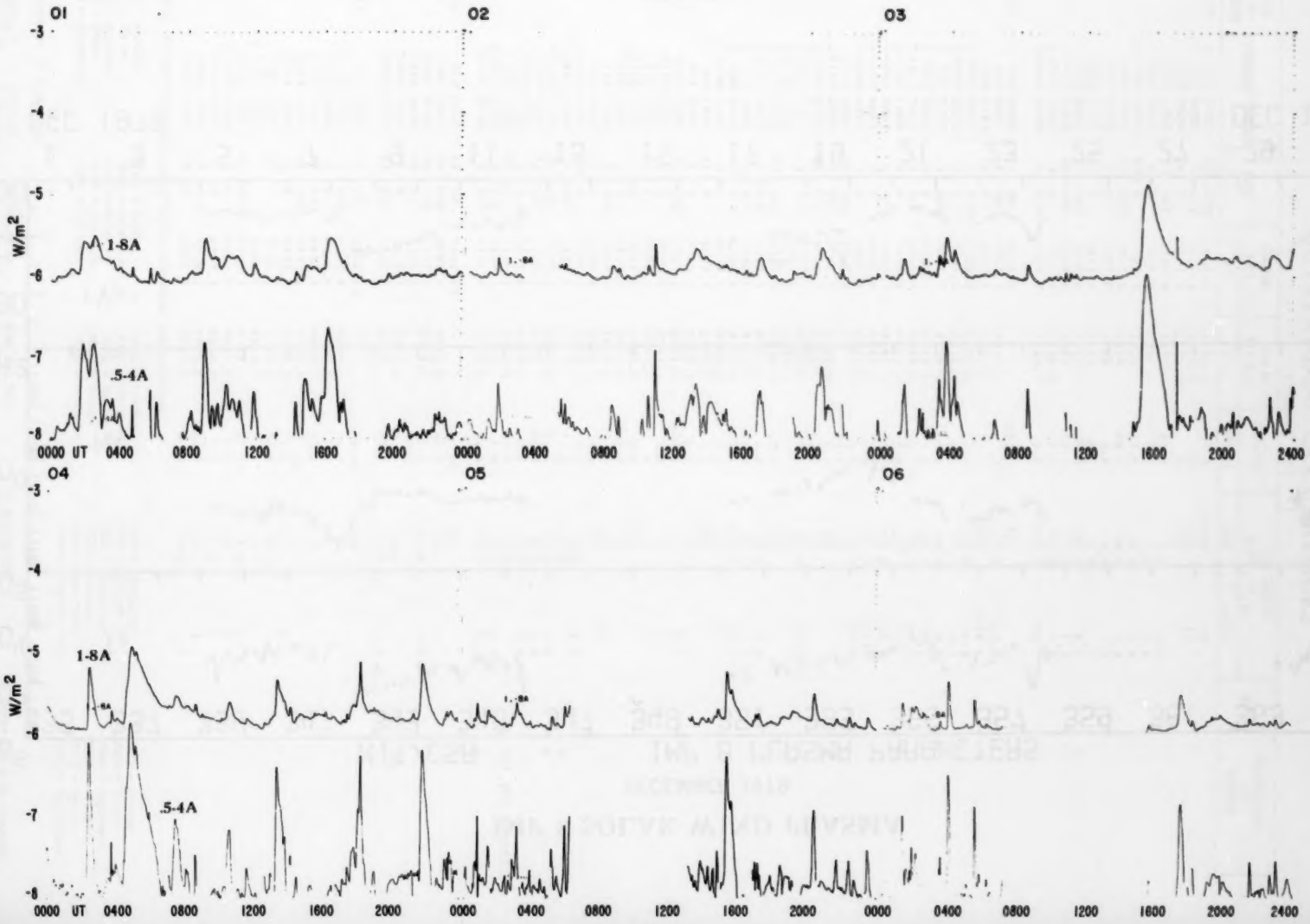
DECEMBER 1979



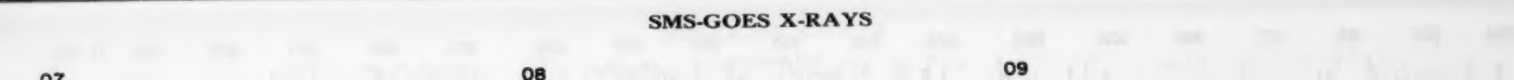
15 Dec 79

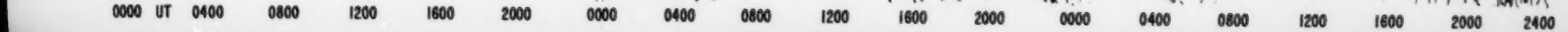
SMS-GOES X-RAYS

DECEMBER 1979

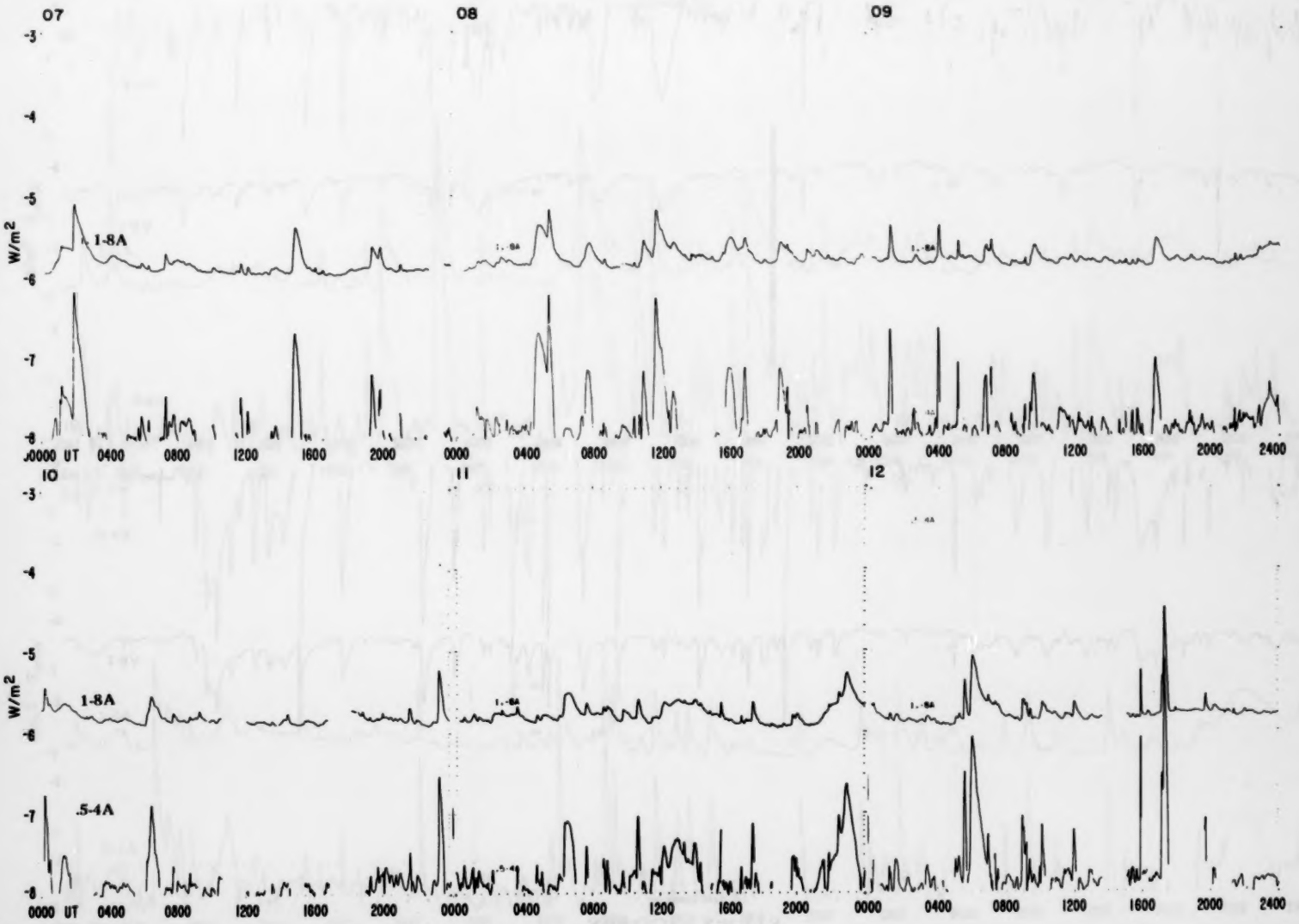


SMS-GOES X-RAYS





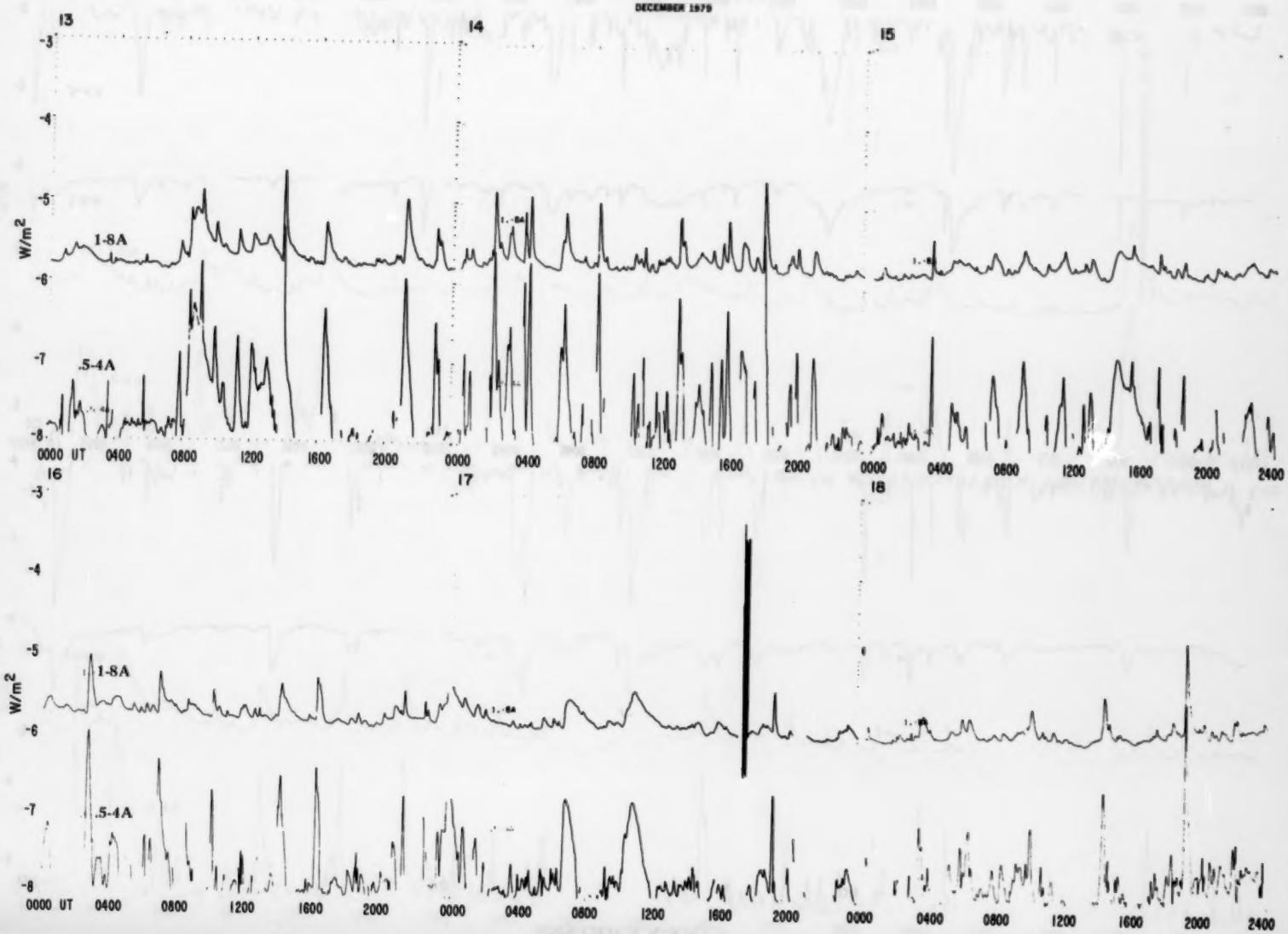
SMS-GOES X-RAYS



17 Dec 79

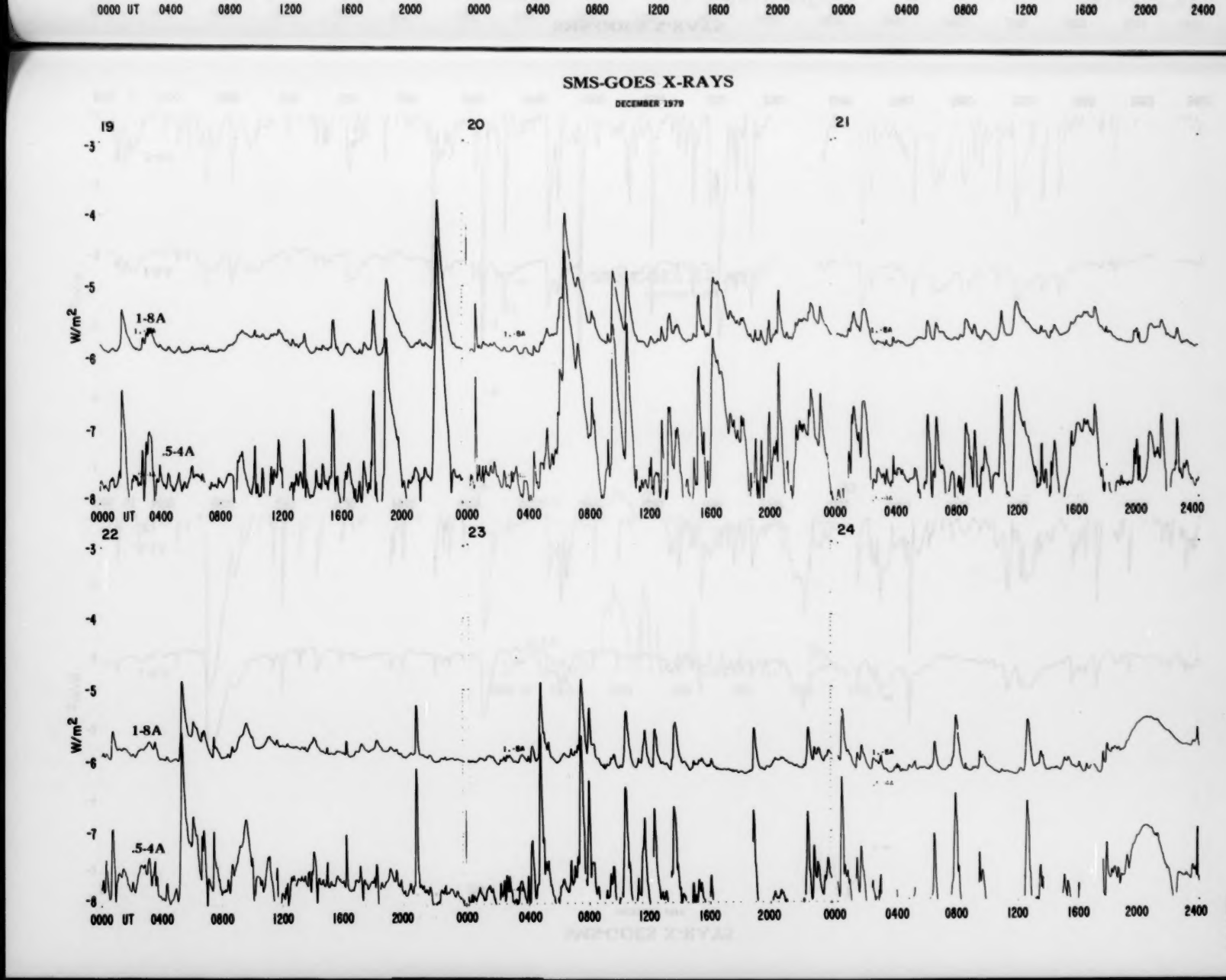
SMS-GOES X-RAYS

DECEMBER 1979



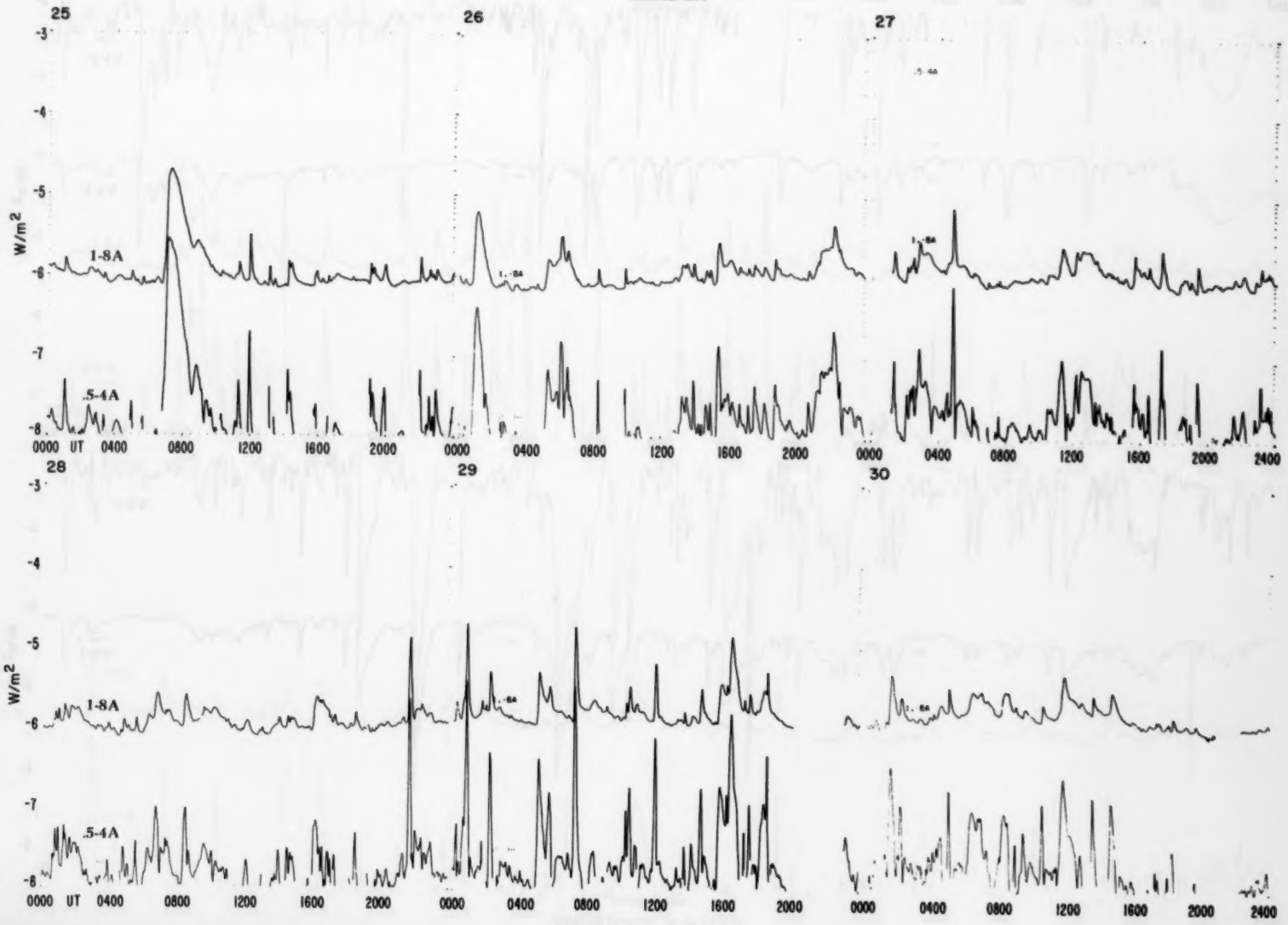
SMS-GOES X-RAYS

DECEMBER 1979


SMS-GOES X-RAYS
DECEMBER 1979
19
20
21
22
23
24
W/m2
1-8A
.5-4A
-3
-4
-5
-6
-7
-8
0000 UT
0400
0800
1200
1600
2000
0000
0400
0800
1200
1600
2000
0000
0400
0800
1200
1600
2000
2400
19 Dec 79

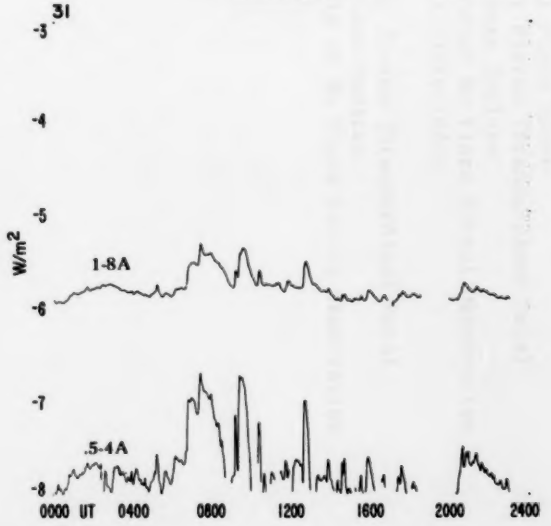
SMS-GOES X-RAYS

DECEMBER 1979



SMS-GOES X-RAYS

DECEMBER 1979



SGD

Ener

Acti

Syno

Sola

SGD 430 Part II (Comprehensive)

MISCELLANEOUS DATA

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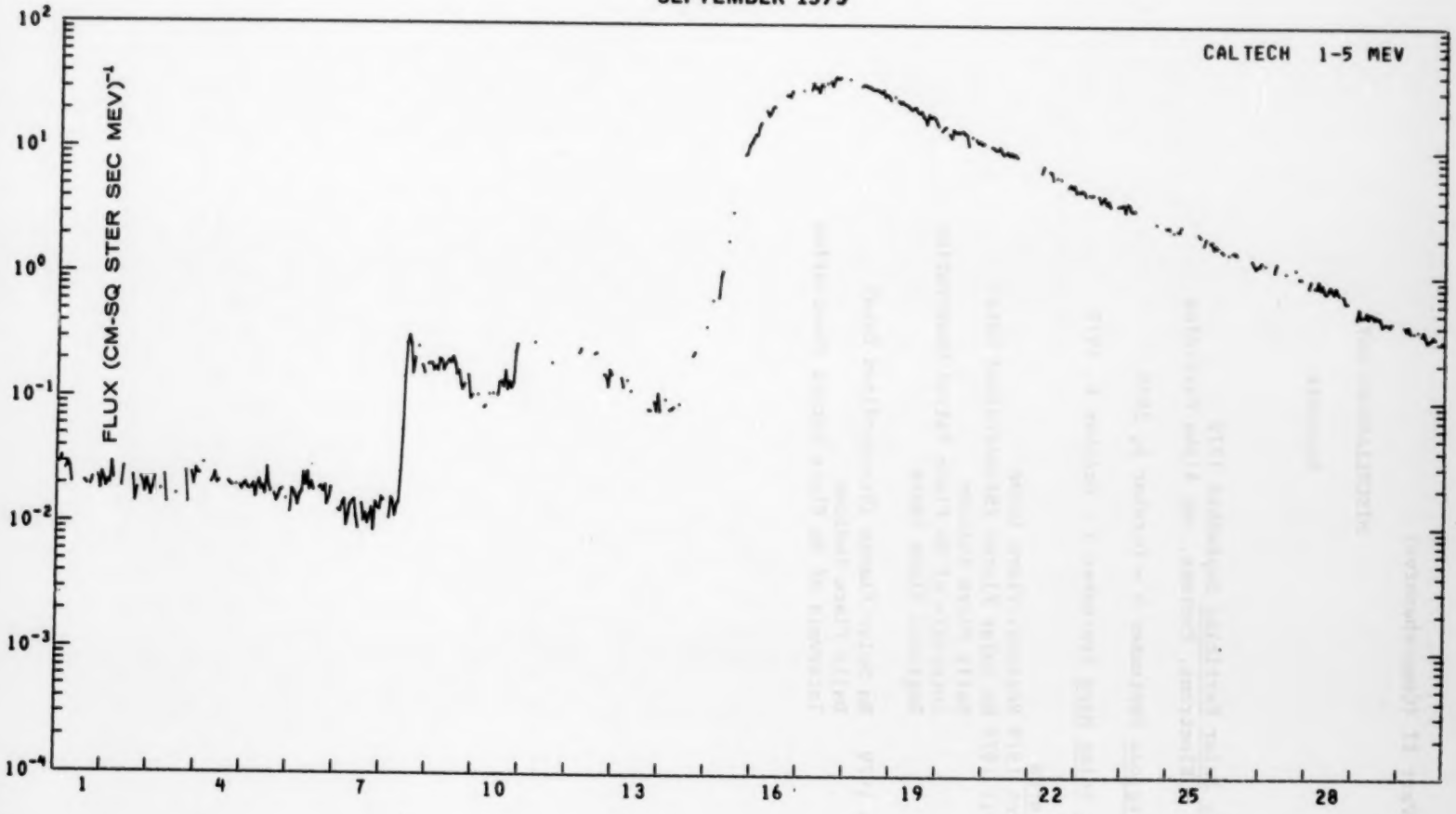
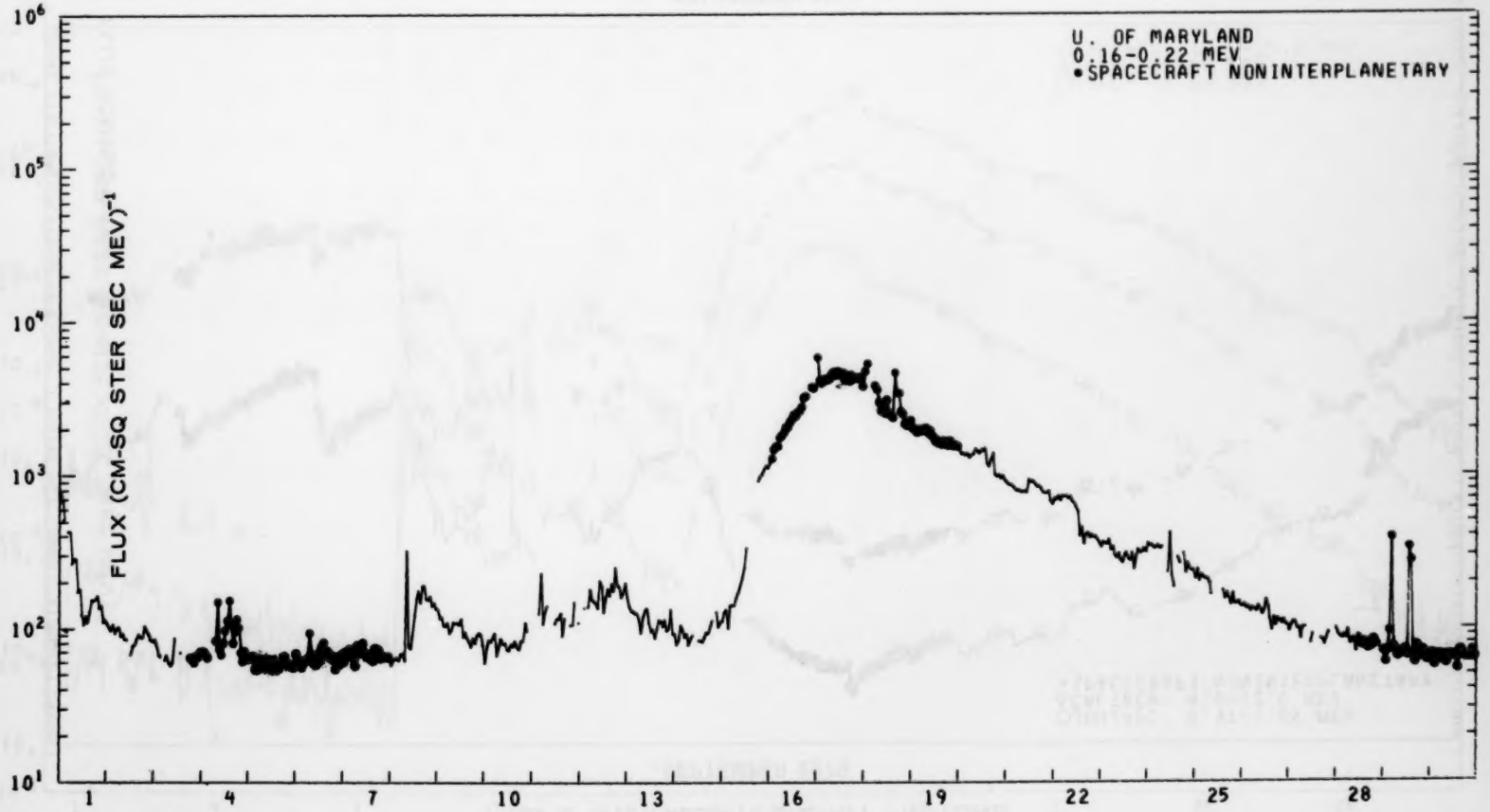
IMP 8 ELECTRONS

SEPTEMBER 1979



IMP 8 LOW ENERGY PROTONS

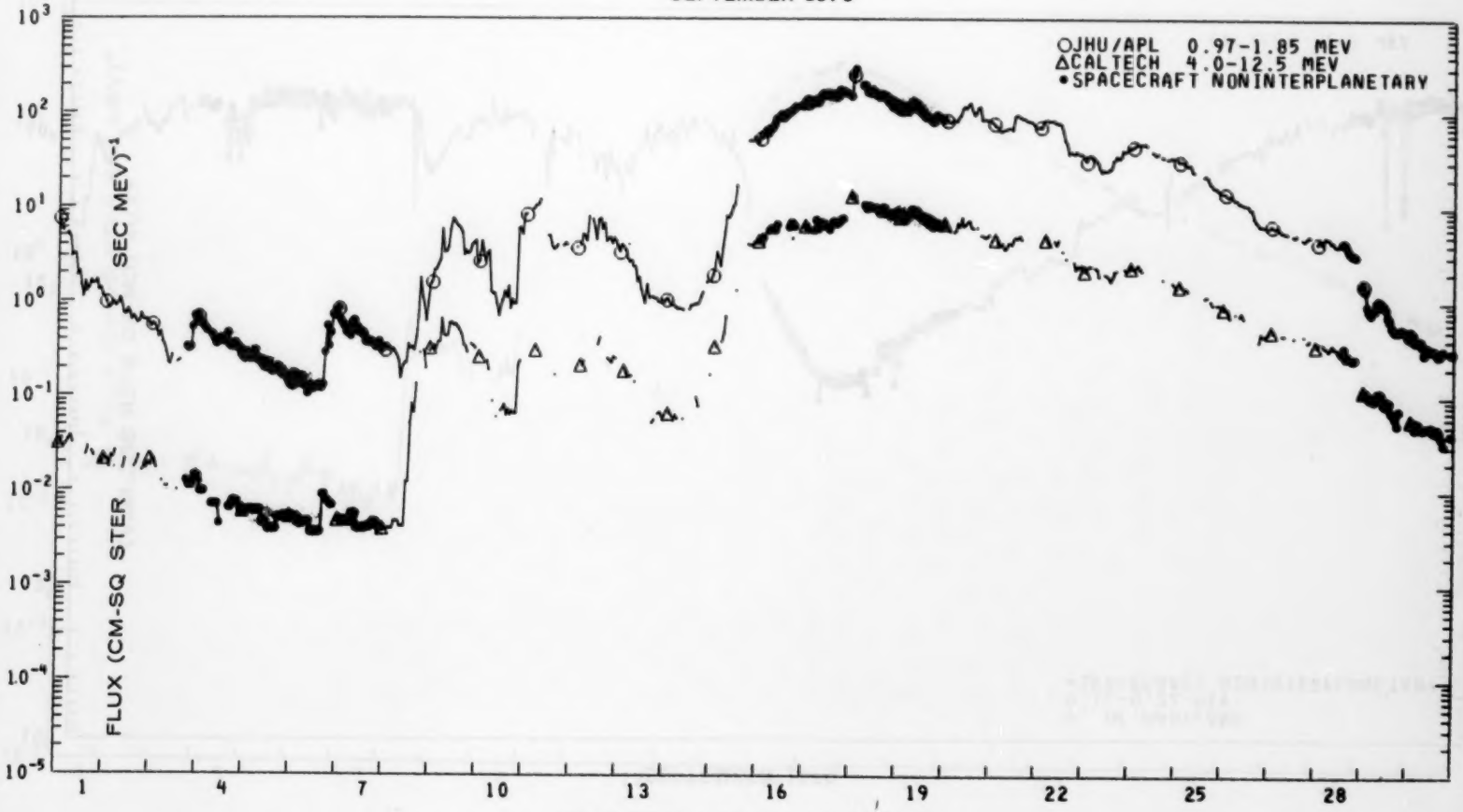
SEPTEMBER 1979



25
Misc
Sep 79

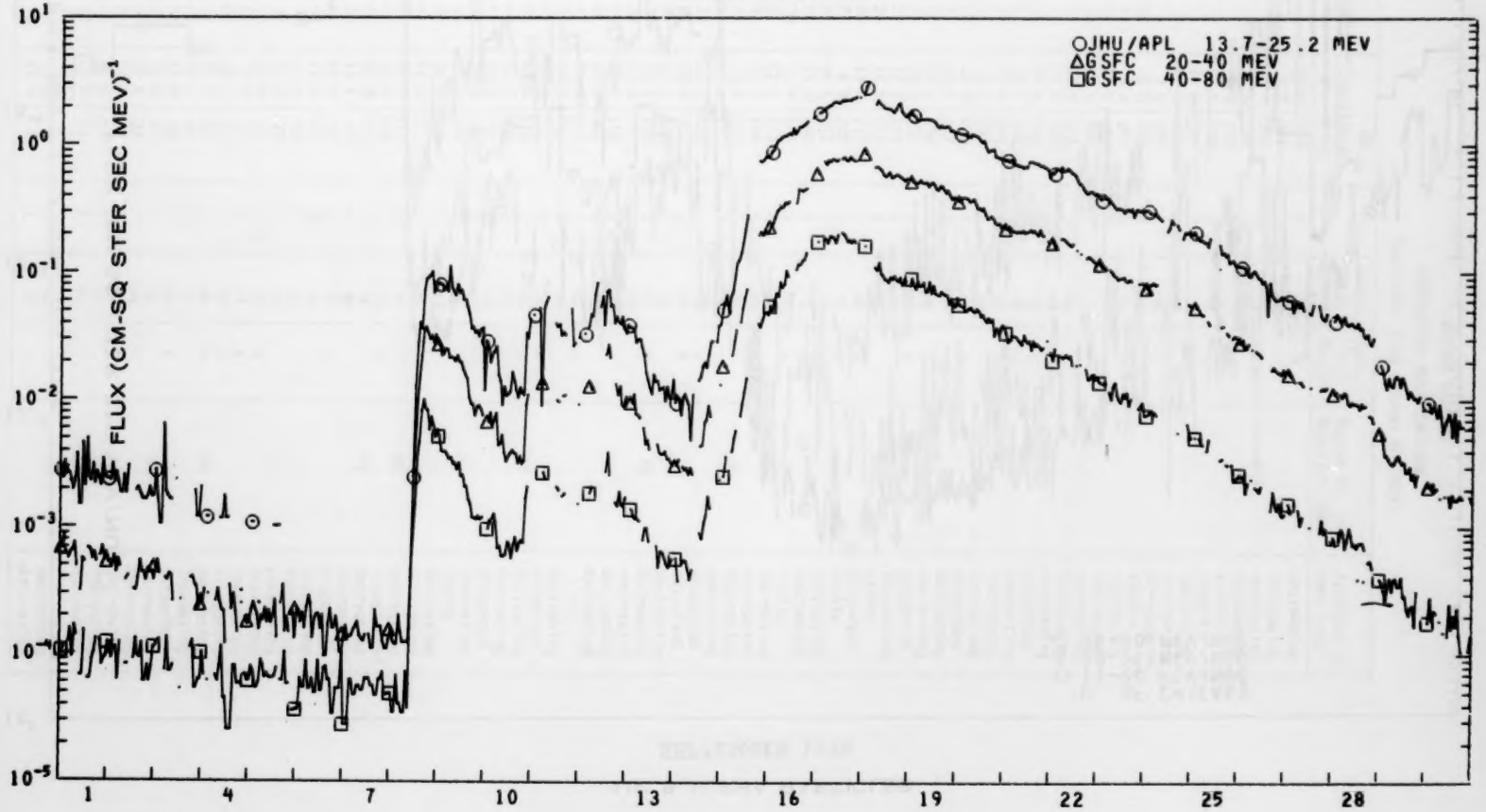
IMP 8 INTERMEDIATE ENERGY PROTONS

SEPTEMBER 1979



IMP 8 HIGH ENERGY PROTONS

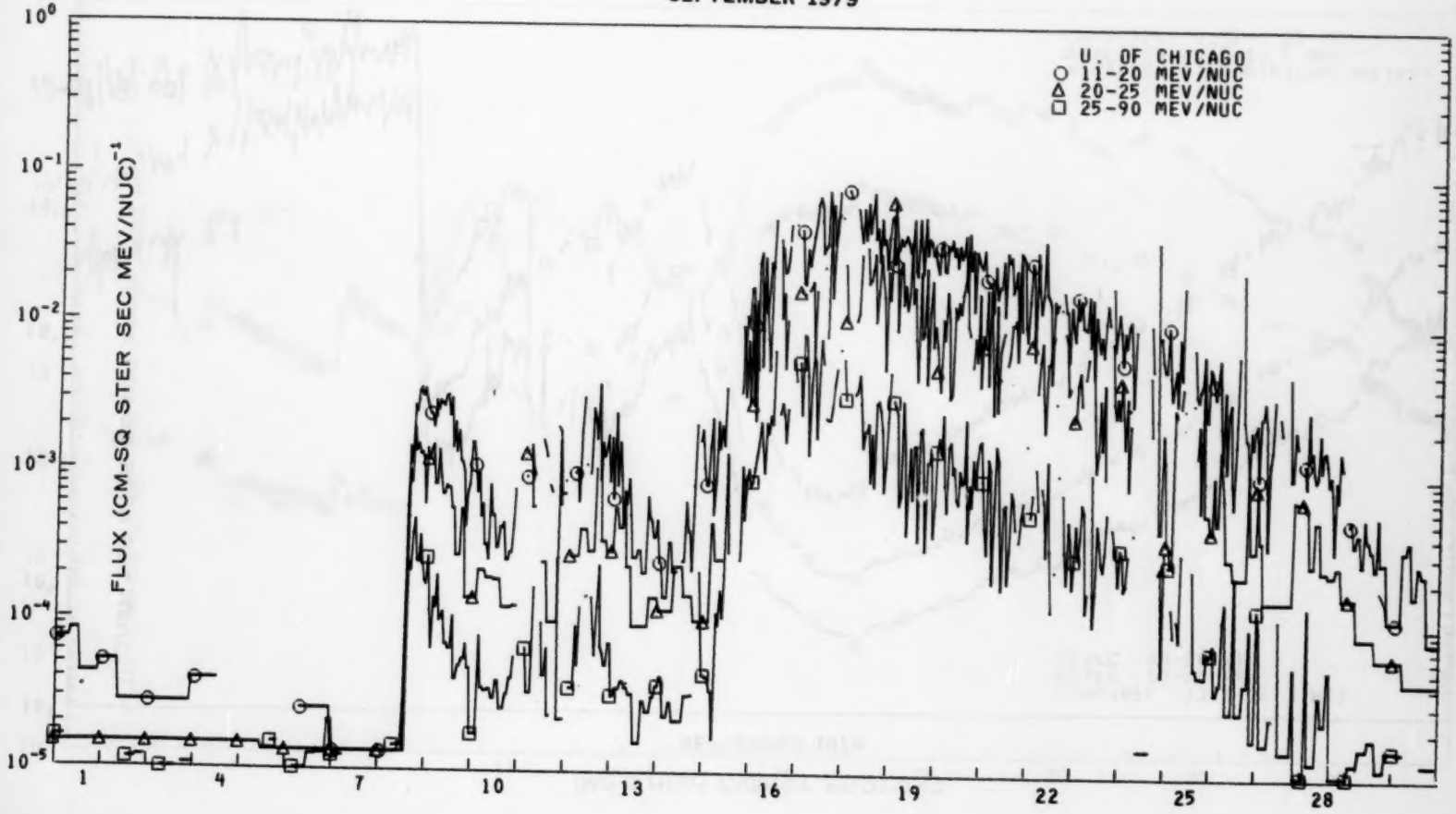
SEPTEMBER 1979



27
Misc
Sep 79

IMP 8 ALPHA PARTICLES

SEPTEMBER 1979



ACTIVE REGIONS

CARRINGTON ROTATION 1686

(September 9 to October 6, 1979)

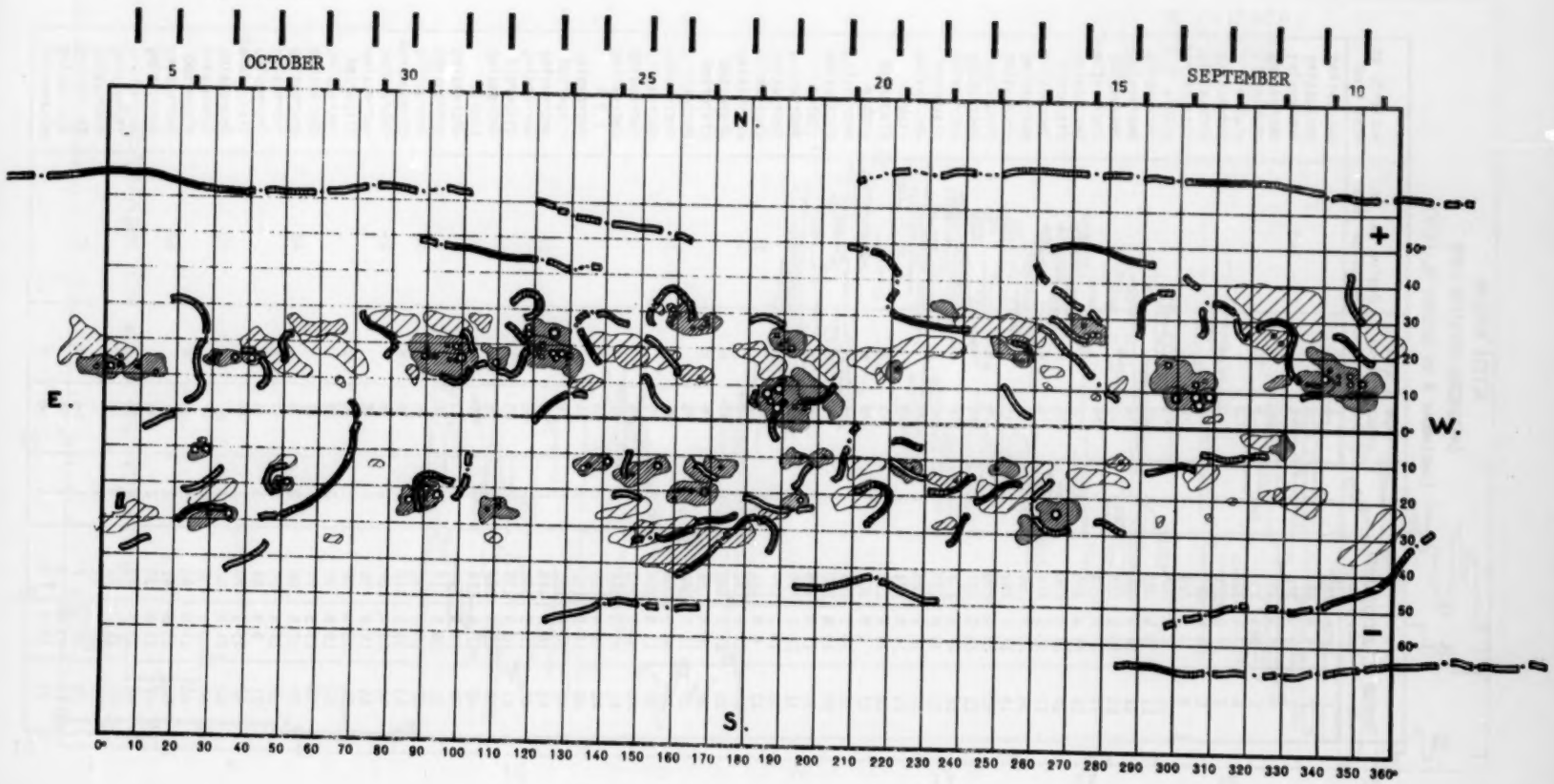
Region No.	Coordinates Lat.	Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1685	Activity at West Limb
1	28°N	355°	1	>6	x		decreasing
2	9 N	351	3	>6			decreasing
3	15 N	346	4	>6		1+3	decreasing
4	14 N	339	3	>6			decreasing
5	5 N	330	1	-2	x		stable
6	17 S	329	1	-4	x		stable
7	14 N	328	1	0	x		decreasing
8	26 N	325	2	+4			decreasing
9	3 S	324	1	>6	x		disappeared
10	8 N	308	4	-1			stable
11	9 N	303	4	+5			decreasing
12	14 N	302	3	>6			decreasing
13	10 S	285	2	-1			decreasing
14	27 N	274	3	>6			decreasing
15	25 N	265	3	>6		18	decreasing
16	24 N	256	1	>6	x		dispersed
17	18 S	255	1	>6	x	24	decreasing
18	20 N	254	2	>6			decreasing
19	11 S	252	2	+5			decreasing
20	28 N	250	1	>6	x		dispersed
21	16 S	237	2	>6			decreasing
22	27 S	236	1	+2	x		decreasing
23	33 N	235	1	+6	x		dispersed
24	12 S	225	2	>6			decreasing
25	14 N	221	2	-3			stable
26	14 N	217	1	+5	x		dispersed
27	6 N	205	1	>6	x		stable
28	10 S	201	2	-1			decreasing
29	19 N	200	1	>6	x		decreasing
30	11 N	198	1	>6	x		stable
31	22 S	195	2	>6			decreasing
32	10 S	194	2	+3			decreasing
33	6 N	191	7	>6		31	decreasing
34	22 N	191	3	-1			decreasing
35	25 S	188	1	+4	x		dispersed
36	18 N	184	1	>6	x		dispersed
37	13 S	170	2	>6			decreasing
38	34 S	168	1	>6	x	34	decreasing
39	13 N	166	2	>6			decreasing
40	20 S	165	3	>6			decreasing
41	28 N	164	3	>6			decreasing
42	31 N	155	1	-5	x		(?)
43	14 S	151	3	+4			decreasing
44	30 S	151	1	0	x		dispersed
45	18 N	148	1	>6	x	37	decreasing
46	12 S	138	3	+3			decreasing
47	10 N	135	1	+3	x		dispersed
48	19 N	127	5	>6			decreasing
49	17 N	124	3	-5			stable
50	24 N	124	5	+3			decreasing
51	26 S	111	2	>6			decreasing
52	16 N	110	3	>6		48	decreasing
53	33 S	110	1	>6	x		disappeared
54	26 N	106	1	>6		43	decreasing
55	15 N	96	4	>6			decreasing
56	25 N	96	1	>6	x		dispersed
57	19 N	95	3	>6			decreasing
58	23 S	93	2	-1			decreasing
59	22 S	89	3	>6		49	decreasing
60	12 N	86	1	-5	x		increasing
61	9 N	66	1	-4	x		increasing
62	35 S	65	1	+4	x		disappeared
63	24 N	60	1	>6	x	55	decreasing
64	20 S	50	2	-2			increasing
65	17 N	48	1	>6	x		dispersed
66	15 N	41	2	+1		57	decreasing
67	15 N	33	2	+4			decreasing
68	28 S	31	2	>6			decreasing
69	11 S	27	3	-3			increasing
70	12 N	11	2	>6			decreasing
71	30 S	7	1	>6	x	61	decreasing
72	13 N	0	2	>6			decreasing
73	18 N	0	1	>6	x		decreasing

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1684

SEPTEMBER 9 to October 6, 1979

MEUDON OBSERVATORY



REGIONAL FLARE INDEX

Includes all Flares

MARCH 1979

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15860	N37	79/03/03.8	79/03/04	79/03/09	22.21	3.70	17
15850	S20	79/03/03.8	79/02/25	79/03/07	164.81	14.98	38
15855	N10	79/03/05.3	79/02/26	79/03/05	39.11	4.89	21
15861	N24	79/03/05.7	79/03/08	79/03/08	1.91	1.91	1
15856	S23	79/03/06.2	79/02/26	79/03/12	1303.57	66.90	32
15862	N15	79/03/06.7	79/03/07	79/03/07	5.28	5.28	1
15870	N24	79/03/06.7	79/03/07	79/03/12	39.80	6.63	14
15863	N16	79/03/08.6	79/03/01	79/03/14	181.56	12.97	38
15864	S16	79/03/08.9	79/03/01	79/03/15	164.38	10.95	49
15884	N11	79/03/11.3	79/03/12	79/03/15	34.95	8.74	10
15865	S14	79/03/11.5	79/03/06	79/03/15	97.13	9.71	22
15868	N19	79/03/11.6	79/03/13	79/03/13	3.38	3.38	1
15871	N25	79/03/11.6	79/03/08	79/03/12	31.67	6.33	10
15869	S27	79/03/13.1	79/03/08	79/03/12	33.20	6.64	10
15885	S26	79/03/14.6	79/03/14	79/03/20	57.27	8.18	12
15874	N18	79/03/15.4	79/03/08	79/03/16	171.21	19.02	28
15876	S22	79/03/15.4	79/03/10	79/03/11	4.23	2.11	3
15896	S29	79/03/15.4	79/03/18	79/03/19	7.81	3.91	5
15881	N29	79/03/16.8	79/03/12	79/03/21	9.97	1.00	6
15880	N40	79/03/17.5	79/03/17	79/03/23	10.27	1.47	7
15877	N15	79/03/18.0	79/03/10	79/03/21	342.18	28.52	59
15902	S25	79/03/19.9.	79/03/20	79/03/20	5.28	5.28	1
15886	S14	79/03/20.3	79/03/12	79/03/26	156.13	10.41	39
15887	N 8	79/03/21.0	79/03/14	79/03/28	753.85	50.26	78
15890	S15	79/03/21.8	79/03/14	79/03/25	13.94	1.16	10
15893	N24	79/03/21.9	79/03/22	79/03/22	8.13	8.13	3
15894	N18	79/03/22.6	79/03/18	79/03/18	1.93	1.93	1
15897	N32	79/03/23.3	79/03/16	79/03/20	7.02	1.40	3
15895	S27	79/03/23.9	79/03/18	79/03/30	9.28	.71	8
15898	N26	79/03/24.5	79/03/20	79/03/20	.84	.84	1
15899	S30	79/03/25.7	79/03/19	79/03/27	40.21	4.47	16
15903	S17	79/03/25.9	79/03/25	79/04/01	8.21	1.03	3
15911	S23	79/03/27.0	79/03/30	79/03/31	5.80	2.90	3
15904	N 8	79/03/27.6	79/03/22	79/04/01	136.97	12.45	38
15901	S34	79/03/28.1	79/03/26	79/03/26	17.10	17.10	1
15908	N12	79/03/28.9	79/03/27	79/03/27	5.42	5.42	1
15906	S22	79/03/29.1	79/03/24	79/04/01	18.88	2.01	10
15913	N23	79/03/29.7	79/03/27	79/03/27	1.32	1.32	1
15914	N27	79/03/30.6	79/03/24	79/04/04	37.65	3.14	17
15916	S19	79/03/30.8	79/03/31	79/04/06	20.46	2.92	5
15917	S16	79/03/31.7	79/03/27	79/04/04	34.21	3.80	6
15915	N34	79/03/31.8	79/03/27	79/04/04	61.91	6.88	16

Hα SOLAR FLARES

APRIL 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP73366	01	0005	0020	0135	S17	E43	.685	15928	4.2	60	1F				340	4.8	EJK	
VORO	01	0005	0020	0056	S16	E43	.684	15928	4.2	51	1F		C	0020	349	4.8	EJK	
HITK	01	0015E		0105D	S17	E44	.697	15920	4.3	50D	1N		C	0023	340	4.8	EF	
CULG	01	0105E	0106	0136D	S19	E42	.678	15920	4.2	31D	-F		P	0106	130	1.8		
367 CULG	01	0207E	0207J	0210	S27	E12	.397	15918	2.8	3D	-N		P	0207	30	.3	CT	Y5
368 VORO	01	0235E		0238D	S20	E21	.413	15918	2.7	3D	-N		P	0235	63	.7	D	Y5
GRP73369	01	0415+3	0425+5	0458D	S25	W38	.653	15906	29.3	43	-F						EGU	
CULG	01	0415E	0430J	0445D	S25	W37	.641	15906	29.4	30D	-N		P	0430	160	1.8	CU	
HITK	01	0418	0425	0458D	S26	W39	.668	15906	29.3	40D	-F		C	0425			EG	
370 CULG	01	0427	0429	0438	S25	E22	.469	15918	2.8	11	-N		C	0429	40	.4	T	Y5
GRP73371	01	0512+2	0516+1	0524	S21	W05	.263	15917	31.8	12	-N				98	.9	EGJ	
ABST	01	0512	0517	0524	S22	W05	.279	15917	31.8	12	-N		C	0517	87	.9	EGJ	
TACH	01	0513	0516	0523	S21	W05	.263	15917	31.8	10	-B		C	0516	71	.7	E	
PEKG	01	0514	0517	0525	S21	W05	.263	15917	31.8	11	-N		C	0519	97		E	
372 ABST	01	0720	0721	0725	S26	E13	.392	15918	2.3	5	-N		C	0721	87	.9	DJ	Y5
GRP73373	01	0748+2	0755+2	0809	S24	E21	.449	15918	2.9	21	-N				130	1.5	EJ	
ABST	01	0748	0757	0757D	S24	E21	.449	15918	2.9	9D	-N		P	0757	174	1.9	FJ	
HTPR	01	0749	0755	0808	S25	E20	.447	15918	2.8	19	-F		C	0755	80	.9	ET	
PEKG	01	0750	0755	0813	S22	E21	.430	15918	2.9	20	-N		P	0755	126		E	
GRP73374	01	0901+0	0903+0	0908	S23	E13	.353	15918	2.4	7	-F						J	
ABST	01	0901	0903	0906	S23	E14	.363	15918	2.4	5	-N		C	0903	131	1.5	FJ	
HTPR	01	0901	0903	0910	S23	E12	.344	15918	2.3	9	-F		C	0903	30	.3	E	
375 KHAR	01	0905E		0935D	N38	W03	.703	15915	1.2	30D	-F		P	0931	90	1.5	BDL	Y5
GRP73376	01	0915E		0940D	S20	E33	.570	15920	3.9	25	-F						E	
KHAR	01	0915E		0928D	S20	E36	.608	15920	4.1	13D	-F		P	0920			E	
KHAR	01	0925E		0940D	S20	E31	.544	15920	3.7	15D	-F		P	0931	50	.6	D	
377 ABST	01	0948	0950	1002	S23	E23	.463	15918	3.1	14	-N		C	0950	131	1.5	DJ	Y5
	01	1004	1005	NO FLARE PATROL														
378 HTPR	01	1045	1056	1105	S22	E12	.331	15918	2.3	20	-F		C	1056	20	.2		Y5
379 HTPR	01	1126	1134	1155	S25	E20	.447	15918	3.0	29	-F		C	1134	40	.4	E	Y5
380 HTPR	01	1208	1210	1214	S22	E09	.304	15918	2.2	6	-F		C	1210	20	.2	E	Y5
	01	1316	1331	NO FLARE PATROL														
381 HTPR	01	1335	1335	1340	S26	E15	.409	15918	2.7	5	-F		C	1335	20	.2	E	Y5
GRP73382	01	1418+1	1424+4	1436	S26	E15	.409	15918	2.7	18	-N				30	.3	E	
ZURI	01	1418	1428	1432	S24	E17	.405	15918	2.9	14	1F		C	1428	290	3.2		
HTPR	01	1419	1424	1438	S26	E15	.409	15918	2.7	19	-F		C	1424	20	.2	E	
RAMY	01	1426E	1426U	1436	S26	E10	.369	15918	2.4	10D	-B	2	C		28			
383 RAMY	01	1455	1455	1518	S26	E10	.369	15918	2.4	23	-B	3	C		25			Y5
384 RAMY	01	1520	1520	1532	S17	W80	.983	15903	26.6	12	-N	3	C					Y5
GRP73385	01	1548+9	1602 1608+3	1653	S24	E14	.375	15918	2.7	65	-N				110	1.2		
HTPR	01	1548	1602	1715	S25	E17	.416	15918	2.9	87	-N		C	1602	40	.4	E	
HUAN	01	1555		1631	S24	E15	.385	15918	2.8	36	-N	1	P	1609	110	1.2	E	
RAMY	01	1555E	1611U	1639D	S23	E13	.353	15918	2.6	44D	-B	3	C		121		F	
HTPR	01	1555	1618	1715	S22	E12	.331	15918	2.6	80	-N		C	1618	40	.4	E	
HOLL	01	1557	1608	1707	S24	E11	.349	15918	2.5	70	-B	3	C		107		F	
386 HUAN	01	1735		1757	S20	E12	.306	15918	2.6	22	-N	1	C					Y5
387 PALE	01	1810	1810	1846	S24	E15	.385	15918	2.9	36	-N	3	C		30		U F	Y5
GRP73388	01	1843E	1843+1	1855	S21	W15	.350	15917	31.7	12	-N				35	.4	F	
RAMY	01	1843E	1848	1856D	S22	W13	.340	15917	31.8	13D	-B	3	C		35		F	
HOLL	01	1848E	1849	1853	S23	W17	.363	15917	31.5	5D	-N	3	C		34		F	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP73389	01	1950	1951	2005	S25	E10	.355	15918	2.6	15	-N				30	.3	F
PALE	01	1950	1951	2005	S26	E09	.363	15918	2.5	15	-N	3	C		20		F
RAMY	01	1952E	1952U	2002D	S25	E11	.362	15918	2.7	10D	-B	3	C		38		F
GRP73390	01	1959	2000	2024D	S22	W15	.361	15917	31.7	25	-B				130	1.4	FU
HOLL	01	1959	2003	2058	S22	W16	.372	15917	31.6	59	-B	3	C		111		U F
RAMY	01	2001E	2001U	2022D	S22	W15	.361	15917	31.7	21D	-B	3	C		158		F
HUAN	01	2016		2024	S22	W15	.361	15917	31.7	8	-F	1	C				E
391 HOLL	01	2300	2308	2309	S23	E09	.319	15918	2.6	9	-B	3	C		54		DE Y5
392 HOLL	01	2318	2321	0004	S24	E19	.426	15918	3.4	46	2B	3	C		783		U F Y5
393 CULG	01	2344E	2344U	2352D	N08	W67	.930	15904	28.0	8D	-F		P	2344	70		Y5
GRP73394	02	0009+2	0016+2 0043+2	0105	S25	E07	.337	15918	2.5	56	-B						
MANI	02	0009	0016	00550	S25	E04	.324	15918	2.3	46D	-B	3	V		120		F
MANI	02	0039	0044	00550	S25	E04	.324	15918	2.3	46D	-N	3	V		208		F
PEKG	02	0010	0018	0050	S24	E05	.311	15918	2.4	40	-N		C	0018	126		E
PEKG	02	0010	0026	0055	S25	E12	.371	15918	2.9	45	-N		C	0026	84		E
HOLL	02	0011	0017	01050	S26	E08	.357	15918	2.6	54D	-B	3	C		187		FDE
MANI	02	0020E	0045	0107	S25	E06	.332	15918	2.5	47D	-B	2	C		190		F
PALE	02	0036E	0043J	00470	S27	E06	.363	15918	2.5	11D	2N	3	C		589		DE
	02	0137	0140	NO FLARE PATROL													
	02	0143	0155	NO FLARE PATROL													
GRP73395	02	0237+2	0238+3	0249	S17	E23	.420	15920	3.8	12	-F				30	.3	D
CULG	02	0237	0238	0255	S18	E22	.412	15920	3.8	18	-F		C	0238	30	.3	
PEKG	02	0239	0241	0243	S16	E24	.428	15920	3.9	4	-F		C	0242	29		D
396 PEKG	02	0249	0253	0258	S25	E00	.317	15918	2.1	9	-F		C	0251	17		E Y5
GRP73397	02	0339+7	0343+7	0400	N28	W33	.731	15914	30.7	21	-N				80	1.1	E
MANI	02	0339E	0343	04010	N29	W33	.739	15914	30.7	22D	-B	2	C		110		
CULG	02	0344E	0348	0400	N28	W30	.708	15914	30.9	16D	-N		P	0348	70	1.0	
PEKG	02	0346	0350	0400	N28	W33	.731	15914	30.7	14	-F		C	0350	63		E
GRP73398	02	0445	0455+0	0512	S25	E01	.318	15918	2.3	27	-F				60	.6	
PEKG	02	0445	0455	0510	S24	E02	.302	15918	2.3	25	-F		P	0455	42		E
CULG	02	0454E	0455U	0514	S27	E00	.350	15918	2.2	20D	-F		P	0455	80	.8	FT
	02	0605	0612	NO FLARE PATROL													
399 KHAR	02	0840E		09030	N32	W32	.756	15914	31.0	23D	?F		P	0844	200	3.1	E Y5
	IMP.1 NO 1 HTPR			MONT													
GRP73400	02	0840E	0856	09120	S25	W03	.321	15918	2.1	32	-F						D
KHAR	02	0840E		09120	S24	W04	.308	15918	2.1	32D	-F	*	P	0908	80	.8	D
ABST	02	0854E	0856	08570	S27	W03	.353	15918	2.1	3D	-F	*	P	0856	87	1.0	D
GRP73401	02	0941+5	0949+1	1009	N35	W15	.693	15915	1.3	28	-F						E
MONT	02	0941	0953	1009	N33	W15	.669	15915	1.3	28	-N		C	0950	80		E
KHAR	02	0945E		10150	N37	W13	.709	15915	1.4	30D	1F		P	0955	150	2.2	D
HTPR	02	0946	0949	1000	N35	W19	.710	15915	1.0	14	-F		C	0949	10	.1	
KHAR	02	0955E		10240	N44	W06	.775	15915	2.0	25D	-F		P	1008	60	1.0	D
402 KHAR	02	0945E		09550	S26	W07	.352	15918	1.9	10D	-F		P	0955	90	1.0	D Y5
GRP73403	02	1014>9	1027+3	1048	S34	W01	.462	15918	2.4	34	-F						E
MONT	02	1014	1030	1048	S34	E09	.481	15918	3.1	34	-N		C	1030	150		
HTPR	02	1025	1027	1033	S32	W01	.431	15918	2.4	8	-F		C	1027	20	.2	E
KHAR	02	1032E		11300	S35	W06	.485	15918	2.0	58D	1F		P	1038	250	3.0	E
404 HTPR	02	1021	1023	1027	S25	W06	.332	15918	2.0	6	-F		C	1023	20	.2	E Y5
405 HTPR	02	1029	1030	1036	S25	E06	.332	15918	2.9	7	-F		C	1030	20	.2	E Y5
GRP73406	02	1052>9	1104	1107	S23	W04	.291	15918	2.2	15	-F						
KHAR	02	1052E		11080	S26	W07	.352	15918	1.9	16D	-F		P	1055			D
HTPR	02	1103	1104	1105	S20	W01	.234	15918	2.4	2	-F		C	1104	10	.1	E
GRP73407	02	1052+3	1113	1204	S34	E07	.473	15918	3.0	72	-N				90	1.0	E
MONT	02	1052	1113	1204	S34	E09	.481	15918	3.1	72	-N		C	1113	100		
HTPR	02	1055		11160	S34	E06	.470	15918	2.9	21D	-N		C	1111	80	1.0	E
408 MONT	02	1100	1106	1116	N38	W15	.727	15915	1.3	16	-F		C	1106	50		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.	
GRP73439	02	1212>9	1222+3	1246	S17	E18	.350	15920	3.9	34	-N				40	.4	E
MONT	02	1212	1225	1230D	S16	E19	.357	15920	3.9	180	-F		C	1225	50		E
RAMY	02	1222	1222	1246	S18	E18	.358	15920	3.9	24	-B	3	C		30		
413 ZURI	02	1235	1235	1241	S23	E01	.284	15918	2.6	6	-N		C	1235	80	6.9	Y5
GRP73411	02	1342+6	1353+3	1405	S26	W02	.335	15918	2.4	23	-N				45	.5	F
RAMY	02	1342	1353	1355	S27	W01	.351	15918	2.5	13	-B	3	C		47		
HOLL	02	1348	1350	1414	S26	W03	.337	15918	2.4	26	-N	3	C		39		F
GRP73412	02	1402+5	1410+1	1430	S18	E16	.332	15920	3.8	28	-B						
RAMY	02	1402	1411	1456	S18	E16	.332	15920	3.8	56	1B	3	C		302		FOE
HOLL	02	1407	1410	1434	S18	E16	.358	15920	3.9	27	-B	3	C		130		F
HUAN	02	1412E		1425	S18	E17	.345	15920	3.9	13D	-N	1	P	1414	70	.7	E
ZURI	02	1415E	1415	1425	S17	E16	.323	15920	3.8	10D	1F		P	1415	390	4.2	
413 HUAN	02	1501	1503	1509	S32	W02	.432	15918	2.5	8	-F	1	C	1503	30	.3	E Y5
414 RAMY	02	1624	1625	1632D	S36	E05	.498	15918	3.1	80	-B	3	C		91		F Y5
GRP73415	02	1624+1	1626+3	1636	S26	W06	.347	15918	2.2	12	-B				35		Y5
HOLL	02	1624	1629	1634	S26	W04	.340	15918	2.4	10	-B	3	C		28		Y5
RAMY	02	1625	1626	1638	S26	W08	.357	15918	2.1	13	-B	3	C		37		F Y5
416 RAMY	02	1700E	1700J	1705	S17	E15	.310	15920	3.8	5D	-B	3	C		38		F Y5
417 HUAN	02	1736E		1747	S31	W01	.415	15918	2.7	11D	-F	1	P	1741	40	.4	E Y5
GRP73418	02	1751+1	1752+1	1801	S24	W03	.305	15918	2.5	10	-N				30	.3	F
RAMY	02	1751	1753	1808	S24	W02	.302	15918	2.6	9	-B	3	C		35		F
PALE	02	1752	1752	1801	S24	W04	.308	15918	2.4	9	-N	3	C		24		F
GRP73419	02	1804+2	1806+1	1817	S32	W02	.432	15918	2.6	13	-N				50	.6	
BIGB	02	1804	1806	1815	S32	W01	.431	15918	2.7	11	-F	2	C	1806	70	.7	
HUAN	02	1804		1811D	S31	W02	.416	15918	2.6	7D	-N	2	P	1806	30	.3	E
RAMY	02	1806	1807	1818	S32	W02	.432	15918	2.6	12	-B	3	C		51		F
420 RAMY	02	1828	1830	1902	S26	W08	.357	15918	2.2	34	-B	3	C		50		F Y5
421 RAMY	02	1924	1926	1933	S23	W01	.284	15918	2.7	9	-B	3	C		43		F Y5
422 RAMY	02	1940	1945	2008	S26	W08	.357	15918	2.2	28	-B	3	C		131		F Y5
GRP73423	02	2001+1	2002+2	2021	S18	E15	.319	15920	4.0	20	-B				70	.7	F
PALE	02	2001	2002	2021	S18	E15	.319	15920	4.0	20	-N	3	C		91		F
HOLL	02	2002	2004	2010	S18	E15	.319	15920	4.0	8	-B	3	C		59		F
RAMY	02	2002	2003	2025	S17	E16	.323	15920	4.0	23	-B	3	C		60		F
GRP73424	02	2025+8	2033+2 2052+3	2120	S25	W04	.324	15918	2.6	55	-B				120	1.3	F
RAMY	02	2015	2019	2114	S24	W03	.305	15918	2.6	59	-N	3	C		44		F
RAMY	02	2015	2034	2114	S24	W03	.305	15918	2.6	59	-B	3	C		123		F
BIGB	02	2025	2052	2130	S29	E00	.383	15918	2.9	65	-F	2	C	2052	20	.2	
PALE	02	2030	2033	2114	S24	W05	.311	15918	2.5	44	-B	3	C		139		F
HOLL	02	2033	2035	2052	S26	W06	.347	15918	2.4	19	-B	3	C		131		
BIGB	02	2033	2034	2038	S24	W01	.301	15918	2.8	5	-N	2	C	2034	50	.5	E
BIGB	02	2035	2044	2048	S26	W10	.370	15918	2.1	13	-F	2	C	2044	30	.3	E
HOLL	02	2052E	2055J	2126	S26	W06	.347	15918	2.4	34D	-B	3	C		164		F
425 CULG	02	2332	2340	2348	S27	W07	.367	15918	2.5	16	-F		C	2340	30	.3	Y5
426 CULG	03	0012	0018	0032	S26	W15	.411	15918	1.9	20	-F		C	0018	40	.4	Y5
GRP73427	03	0105+4	0112+2 0134+5	0230D	S25	W14	.389	15918	2.0	85	1B						FILU
PEKG	03	0105	0127	0130	S28	W14	.428	15918	2.0	25	1B		C	0127	378		F
PEKG	03	0105	0112	0130	S28	W15	.436	15918	1.9	25	-N		C	0112	126		F
CULG	03	0108	0208J	0322D	S25	W15	.398	15918	1.9	134D	1B		C	0208	410	4.5	LFIU
PALE	03	0109	0139	0329	S26	W14	.402	15918	2.0	140	1N	3	C		410		U F
MANI	03	0112E	0134	0211D	S24	W11	.350	15918	2.2	59D	-N	3	C		180		FOE
MANI	03	0112E	0114	0211D	S24	W11	.350	15918	2.2	59D	-B	3	C		180		FOE
PEKG	03	0209	0215	0230	S27	W14	.415	15918	2.0	21	1B		C	0215	421		FI
GRP73428	03	0239>9	0255+8	0327	S09	E28	.467	15924	5.2	48	-N				70	.8	EU
CULG	03	0239E	0301J	0428D	S09	E29	.482	15924	5.3	109D	-N		P	0301	160	1.8	C
PEKG	03	0246	0256	0316D	S09	E29	.482	15924	5.3	32D	-N		P	0256	84		E
PALE	03	0252	0255	0323	S10	E24	.407	15924	4.9	31	-N	3	C		62		DE
MANI	03	0301E	0303	0327	S08	E27	.451	15924	5.2	26D	-N	3	C		50		U

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP73429	03	0246	0248 0309+9	0328	S24	W12	.358	15918	2.2	42	-B				130	1.4	FKU	
PALE	03	0109	0308	0329	S26	W14	.402	15918	2.0	140	1B	*	C		200		U F	
PEKG	03	0246	0300	0345	S25	W13	.380	15918	2.1	59	1N	*	P	0256	399		FK	
PEKG	03	0246	0248	0345	S25	W13	.380	15918	2.1	59	1N	*	P					
MANI	03	0301E	0305	0327D	S24	W12	.358	15918	2.2	260	-B	*	C		120		F	
CULG	03	0304	0307	0322D	S21	W06	.270	15918	2.7	180	-B	*	C	0307	60	.6	F	
PEKG	03	0305	0309	0318	S21	W07	.277	15918	2.6	13	-N	*	C	0309	147		E	
PEKG	03	0321	0324	0325	S25	W13	.380	15918	2.2	4	-F	*	C	0324	46		E	
430 CULG	03	0304	0310	0322D	S22	E11	.323	15920	4.0	180	-N		P	0310	100	1.1		Y5
GRP73431	03	0417+1	0418+4	0440	S23	W05	.296	15918	2.8	23	1B						FIZ	
MANI	03	0417E	0418	0440	S23	W05	.296	15918	2.8	230	-B	3	C		100		F	
CULG	03	0418E	0418	0428D	S22	W05	.281	15918	2.8	100	-B		P	0418	180	1.9	C	
PEKG	03	0418	0422	0435D	S23	W09	.320	15918	2.5	170	2B		P	0422	505		FIZ	
432 TACH	03	0526	0535	0542	S33	W08	.463	15918	2.6	16	1N		C	0535	194	2.4	ELT	Y5
433 HTPR	03	0646		0702D	S32	W22	.541	15918	1.6	160	-F		C	0648	50	.6	E	Y5
GRP73434	03	0650>9	0652 0703	0715	S23	W09	.320	15918	2.6	25	-N						E	
MANI	03	0650E	0652	0707D	S29	W10	.414	15918	2.5	170	-N	3	C		45		F	
PEKG	03	0658	0703	0714	S23	W08	.313	15918	2.7	16	-N		P	0703	168		E	
HTPR	03	0701		0702D	S20	W12	.307	15918	2.4	10	-N		C	0702	60	.6	E	
CATA	03	0710E	0710	0715D	S23	W08	.313	15918	2.7	50	-N	2	P	0710	84	.9		
GRP73435	03	0824+1	0828+7	0850	S23	W07	.307	15918	2.8	26	-N				90	1.0	E	
PEKG	03	0824	0828	0850	S23	W09	.320	15918	2.7	26	-N		C	0828	105		E	
HTPR	03	0825		0835D	S20	W11	.297	15918	2.5	180	-N		C	0825	50	.5	E	
MONT	03	0825	0831	0839	S24	W05	.312	15918	3.0	14	-N		C	0831	100		E	
KANZ	03	0825	0828	0843	S21	W08	.284	15918	2.8	18	-N	2						
KANZ	03	0831	0835	0852	S28	W02	.369	15918	3.2	21	-N	2						
GRP73436	03	1024+1	1025+1	1053	S33	W11	.477	15918	2.6	29	-F				50	.6		
MONT	03	1024	1026	1045	S33	W10	.472	15918	2.7	21	-F		C	1026	50			
CATA	03	1025	1025	1100	S34	W12	.496	15918	2.5	35	-N	2	C	1025	56	.7		
GRP73437	03	1151+4	1200 1208+5	1243	S21	W11	.310	15918	2.7	52	1N				330	3.5	EJL	
CATA	03	1140E	1200	1200D	S21	W12	.319	15918	2.6	200	1B	2	P	1200	252	2.8		
MONT	03	1151	1213	1252D	S20	W10	.287	15918	2.7	610	1N		C	1213	330			
KAND	03	1154	1209	1216	S21	W10	.300	15918	2.7	22	1N		C		416	4.5	E	
LVOV	03	1155	1208	1236	S24	W08	.328	15918	2.9	41	1N		C	1208	250	2.8	EJ	
CATA	03	1225E	1225	1240D	S22	W12	.332	15918	2.6	150	1B	1	P	1225	337	3.8		
HCMA	03	1246E		1335	S19	W12	.295	15918	2.6	490	-N		C	1246	60	.6	EL	
GRP73438	03	1328+2	1342	1415	S18	E08	.241	15920	4.2	47	-F						E	
HCMA	03	1328	1342	1415	S18	E09	.251	15920	4.2	47	-N		C	1342	60	.6	E	
HUAN	03	1330		1402D	S19	E08	.255	15920	4.2	320	-F	1	C	1332	30	.3		
GRP73439	03	1404+2	1411+2	1434	S20	W13	.318	15918	2.6	30	-B				60	.6	E	
HCMA	03	1404	1411	1440	S19	W12	.295	15918	2.7	36	-B		C	1411	60	.6	E	
HUAN	03	1406	1413	1423	S20	W14	.329	15918	2.5	17	-N	1	C	1413	30	.3	E	
HOLL	03	1408E	1411	1434	S22	W13	.342	15918	2.6	260	-B	2	C		81		DE	
440 HCMA	03	1555	1557	1617	S27	W10	.385	15918	2.9	22	-F		C	1557	25	.3	D	Y5
GRP73441	03	1635+2	1640+5	1703	S19	W14	.318	15918	2.6	28	-N				70	.7	EL	
BIGB	03	1635	1640	1701	S20	W14	.329	15918	2.6	26	-N	2	P	1640	90	1.0		
HUAN	03	1636		1647D	S20	W15	.340	15918	2.6	110	-N	1	P	1644	60	.6	E	
HCMA	03	1636	1644	1715	S19	W13	.306	15918	2.7	39	-B		C	1644	60	.6	EL	
RAMY	03	1637	1645	1703	S19	W15	.330	15918	2.6	26	-B	3	C		76			
GRP73442	03	1818+1	1819+1	1827	S18	E04	.211	15920	4.1	9	-F				35	.4	E	
HCMA	03	1818	1819	1825	S18	E07	.232	15920	4.3	7	-F		C	1819	40	.4	E	
HUAN	03	1819	1820	1829	S18	E02	.203	15920	3.9	10	-F	1	C	1820	30	.3	E	
GRP73443	03	1900+0	1900+3	1905	S18	E03	.207	15920	4.0	5	-N				30	.3		
HCMA	03	1900	1901	1906	S18	E07	.232	15920	4.3	6	-F		C	1901	40	.4	E	
PALE	03	1900	1900	1902	S18	E03	.207	15920	4.0	2	-N	3	C		24		F	
RAMY	03	1902E	1903	1905	S18	E02	.203	15920	3.9	30	-N	3	C		25			
GRP73444	03	1928+1	1934+3	1951	N28	W60	.922	15914	30.3	23	-N						EH	
HCMA	03	1928	1934	1948	N26	W55	.893	15914	30.7	20	-F		C	1934	40	1.0	EH	
BIGB	03	1929	1937	1953	N28	W65	.948	15914	29.9	24	1N	1	C	1937	100			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.		
GRP73445	03	1938+7	1937+4 1948	1953	S29	W14	.441	15918	2.8	23	-N						EKH	
MCMA	03	1930	1948	2015D	S29	W14	.441	15918	2.8	45D	1N		C	1948	180	2.1		
MCMA	03	1930	1948	2015D	S29	W14	.441	15918	2.8	45D	1N		C	1939	90	1.0	EKH	
BIGB	03	1936	1941	1953	S26	W11	.406	15918	3.0	17	-N	1	C	1941	60	.6		
RAMY	03	1937	1937	1953	S27	W17	.441	15918	2.5	16	-B	3	C		33		F	
BIGB	03	1937	1941	1952	S32	W17	.501	15918	2.5	15	-N	1	C	1941	70	.8	E	
GRP73446	03	1949+1	1956+4	2030D	S18	E02	.203	15920	4.0	41	1B				210	2.2	H	
MCMA	03	1949	2000	2100	S18	E05	.217	15920	4.2	71	1B		C	2000	200	2.1	EH	
RAMY	03	1950	1956	20240	S18	E01	.201	15920	3.9	34D	1B	3	C		214		DE	
PALE	03	1954E	1958J	2038	S18	E02	.203	15920	4.0	36D	1B	3	C		208		F	
GRP73447	03	2058+4	2107+1	2118	S21	W18	.386	15918	2.5	20	-N						E	
HOLL	03	2058	2108	2120	S26	W19	.449	15918	2.4	22	-B	3	C		108			
MCMA	03	2102	2107	2115	S17	W18	.351	15918	2.5	13	-F		C	2107	40	.4	E	
448 MCMA	03	2123	2125	2138	S17	W18	.351	15918	2.5	15	-F		C	2125	30	.3	E	Y5
449 CULG	03	2321	2327	2334	S27	W13	.407	15918	3.0	13	-F		C	2327	30	.3		Y5
GRP73450	03	2340+3	2346+1	2357	S20	W23	.440	15918	2.3	17	-F				50	.6	EL	
CULG	03	2340	2347	0000	S20	W22	.427	15918	2.3	20	-F		C	2347	40	.4		
VORO	03	2343	2346	2354	S20	W24	.453	15918	2.2	11	-N		C	2346	63	.7	EL	
GRP73451	04	0111+3	0117+1	0129	S25	W18	.428	15918	2.7	18	-N						L	
CULG	04	0111	0117	0125	S25	W20	.449	15918	2.5	14	-F		C	0117	30	.3	F	
VORO	04	0114	0118	0132	S25	W17	.418	15918	2.8	18	-B		C	0118	81	.9	EL	
GRP73452	04	0128+5	0136+2	0204	N29	W59	.919	15914	30.6	36	-F				60	1.4	EJ	
CULG	04	0128	0138	0210	N29	W59	.919	15914	30.6	42	-N		C	0138	60	1.4		
VORO	04	0133	0136	0158	N30	W60	.927	15914	30.6	25	-F		C	0136	72	1.8	EJ	
453 PEKG	04	0211	0213	0215	S29	W32	.612	15918	1.7	4	-F		C	0213	34		E	Y5
454 CULG	04	0412	0415	0424	S25	W15	.399	15918	3.1	12	-N		P	0415	40	.5		Y5
455 CULG	04	0445	0447	0500	S28	W32	.685	15918	1.8	15	-N		P	0447	20	.2		Y5
GRP73456	04	0713E	0715+1	0730	S22	W57	.839	15916	31.0	17	-B				90	1.7	E	
MANI	04	0713E	0715	0730	S21	W58	.847	15916	31.0	17D	-B	3	C		90			
PEKG	04	0715E	0716	0726	S22	W56	.831	15916	31.1	11D	-B		C	0716	67		E	
CATA	04	0720E	0720	0740	S22	W57	.839	15916	31.0	20D	1B	2	P	0720	168	3.3		
GRP73457	04	0735	0735	0755	N24	W62	.925	15914	30.7	20	-N						DG	
CATA	04	0735	0735	0755	N23	W61	.916	15914	30.7	20	-N	2	P	0735	28	.6		
ABST	04	0736E	0736	0738D	N25	W64	.938	15914	30.5	2D	1F		P	0736	87		DG	
458 ABST	04	0736E	0736	0738D	N34	W46	.860	15915	31.9	2D	-F		P	0736	87	1.6	DG	Y5
	04	1135	1141	NO FLARE PATROL														
459 HUAN	04	1318E		1333D	S23	E11	.337	0	5.4	23D	-F	1	P				E	Y5
460 HUAN	04	1320		1402D	S24	W30	.556	15918	2.3	42D	-F	1	P				E	Y5
	04	1339	1356	NO FLARE PATROL														
	04	1402	1409	NO FLARE PATROL														
461 HOLL	04	1432	1432	1438	S25	W28	.539	15918	2.5	6	-B	3	C		23			Y5
	04	1504	1515	NO FLARE PATROL														
462 HOLL	04	1659	1709	1707	S23	W29	.537	15918	2.5	8	-B	3	C		29			Y5
463 HUAN	04	1838E		1848D	S18	W55	.817	15917	31.7	10D	-F	1	P	1843	15	.2	D	Y5
GRP73464	04	1848+2	1852+0	1902	S23	W30	.549	15918	2.5	14	-B				25	.3	D	
RAMY	04	1848	1852	1902	S23	W30	.549	15918	2.5	14	-B	3	C		25			
HOLL	04	1850	1852	1902	S23	W30	.549	15918	2.5	12	-B	3	C		20			
HUAN	04	1900E	1902	1904D	S25	W26	.516	15918	2.8	4D	-F	1	P	1902	20	.2	D	
GRP73465	04	2009+1	2024	2038	S08	E04	.075	15924	5.1	29	-N				50	.5	E	
HUAN	04	2009		2032D	S08	E06	.107	15924	5.3	23D	-N	1	P	2019	60	.6	E	
HOLL	04	2010	2024	2038	S09	E03	.069	15924	5.1	28	-N	3	C		50			
466 HUAN	04	2058		2116	S27	W35	.631	15918	2.2	18	-F	1	C				E	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP73467	04	2139+1	2140+0	2147	S25	W32	.585	15918	2.5	8	-N				20	.3		
HOLL	04	2139	2140	2147	S25	W32	.585	15918	2.5	8	-B	3	C		21		F	
HUAN	04	2139		2143D	S23	W31	.561	15918	2.6	4D	-N	1	P	2140	25	.3	D	
PALE	04	2140	2140	2146	S26	W32	.592	15918	2.5	6	-N	3	C		21		DE	
468 CULG	04	2220E	2242U	2246	S28	E40	.689	0	7.9	26D	-N		P	2242	120	1.7	SF	Y5
	05	0201	0208	NO FLARE PATROL														
	05	0228	0230	NO FLARE PATROL														
	05	0336	0341	NO FLARE PATROL														
469 MANI	05	0359	0401	0411	S29	W31	.602	15918	2.8	12	-B	3	C		40			Y5
	05	0413	0422	NO FLARE PATROL														
470 MANI	05	0523	0528	0533D	S17	W19	.365	15920	3.8	10D	-N	3	C		80			Y5
471 MANI	05	0525	0526	0533D	S28	W31	.595	15918	2.9	8D	-N	3	C		50		F	Y5
472 MANI	05	0626E	0626U	0633D	S28	W30	.584	15918	3.0	7D	-N	3	V		30		F	Y5
473 KAND	05	0636E		0704	S23	W38	.645	15918	2.4	28D	-F		C		73	1.0	F	Y5
GRP73474	05	0650+6	0653	0701	S27	W37	.653	15918	2.5	11	-N						D	
KAND	05	0650	0653	0658	S28	W37	.659	15918	2.5	8	-F		C		83	1.2		
ISTA	05	0656		0703	S27	W38	.664	15918	2.4	7	-B						D	
GRP73475	05	0726+4	0727+5	0735	S22	W39	.653	15918	2.4	9	-F				40	.5		
MANI	05	0726	0727	0733	S23	W39	.657	15918	2.4	7	-N	3	C		40			
KAND	05	0730	0732	0736	S22	W39	.653	15918	2.4	6	-F		C		42	.6		
476 KAND	05	0800	0804	0816	S29	W30	.592	15918	3.1	16	-F		C		42	.5	E	Y5
477 KAND	05	0833	0835	0848	S26	W33	.603	15918	2.9	15	-F		C		114	1.5	F	Y5
GRP73478	05	0925+2	0927+2	0932	S23	W40	.668	15918	2.4	7	-F				90	1.2		
TELV	05	0925	0927	0931	S23	W42	.691	15918	2.2	6	-N	3		0927	125	1.7		
KAND	05	0927	0929	0932D	S23	W38	.645	15918	2.5	5D	-F		C		62	.8		
479 TELV	05	1027	1035	1045	S28	W34	.627	15918	2.9	18	-N	3			60	.7	E	Y5
480 ABST	05	1150	1151	1154D	S24	W43	.705	15918	2.3	4D	-F		P	1151	105	1.5	DV	Y5
481 ZURI	05	1242	1310	1348D	S22	E12	.334	0	6.4	66D	-F		P	1310	200	2.2		Y5
GRP73482	05	1452+7	1457+2	1504	N20	E88	1.000	15933	12.2	12	-B							
HTPR	05	1452	1457	1504	N20	E90	1.001	15933	12.4	12	1B		C	1457	80			
HOLL	05	1459	1459	1534	N20	E88	1.000	15933	12.2	35	-B	3	C				DE	
RAMY	05	1459	1459	1503	N20	E78	.988	15933	11.5	4	-B	3	C					
GRP73483	05	1823+3	1827+2	1846	N20	E89	1.000	15933	12.4	23	-N							
BIGB	05	1823	1829	1859	N19	E90	1.001	15933	12.5	36	1N	*	C	1829	60			
RAMY	05	1825	1827	1832	N20	E76	.982	15933	11.5	7	-N	3	C					
HOLL	05	1826	1828	1848	N20	E88	1.000	15933	12.4	22	-B	*	C					
PALE	05	1828E	1828U	1844D	N20	E90	1.001	15933	12.5	16D	-N	*	C				DE	
484 HOLL	05	1944	1948	1957	S25	W44	.719	15918	2.5	13	-B	3	C		110			Y5
485 BIGB	05	2125	2137	2155	N13	E90	1.000	15934	12.6	30	?N	2	C	2137	70			Y5
	IMP.1 NO 1 HOLL PALE																	
486 CULG	05	2349	2358	0002	S08	W10	.175	15924	5.2	13	-F		C	2358	10	.1		Y5
GRP73487	06	0353	0450 0502	0550	S35	W41	.736	15918	3.1	117	1N						D	
CULG	06	0353	0450U	0550	S35	W40	.727	15918	3.2	117	1N		C	0450	150	2.3		
ABST	06	0459E	0502	0507D	S36	W43	.758	15918	3.0	8D	-F		P	0502	87	1.3	D	
488 ABST	06	0601E	0602	0620D	S28	E63	.893	15929	11.0	19D	-F		P	0602	87		E	Y5
489 ABST	06	0621E	0626	0628D	S46	W54	.875	0	2.2	7D	-F		P	0626	87	1.8	DG	Y5
490 ABST	06	0631E	0635	0643D	S32	W48	.783	15918	2.7	12D	-F		P	0635	114	1.8	EJ	Y5
GRP73491	06	0815+5	0820+2	0835	S24	W90	.999	15916	30.6	20	1N				100		A	
HTPR	06	0815	0822	0835	S23	W90	.999	15916	30.6	20	1N		C	0822	90			
CATA	06	0820	0820	0835	S25	W90	.999	15916	30.6	15	1N	2	C	0820	112		A	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg		
492 ABST	06	0839E	0902	0906	S29	E65	.907	15929	11.2	27D	?F		P	0902	131		DJ	Y5
	IMP.1 NO 1 HTPR																	
493 ABST	06	0849	0856	0905	N17	W14	.455	15923	5.3	16	-F		C	0856	105	1.2	E	Y5
GRP73494	06	0908+0	0909+1	0937	N26	E90	1.001	15933	13.1	37	1B						ADJ	
HTPR	06	0909	0910	0930	N30	E90	1.001	15933	13.1	38	1B		C	0910	80			
ABST	06	0908	0909	0943	N22	E90	1.001	15933	13.1	43	2N		C	0909	192		ADJ	
495 CATA	06	1140	1145	1155	S23	W58	.850	15918	2.1	15	-F	2	C	1145	84	1.7		Y5
496 HTPR	06	1245	1251	1253	S28	E60	.872	15929	11.0	8	-F		C	1251	30	.6		Y5
	06	1318	1323	NO FLARE PATROL														
	06	0202	0208	NO FLARE PATROL														
GRP73497	06	1355>9	1407+3	1425	S27	W54	.822	15918	2.5	30	-N				60	1.1	E	
HTPR	06	1355	1410	1431	S30	W55	.836	15918	2.5	36	-N		C	1410	80	1.4	E	
HOLL	06	1405	1407	1418	S25	W54	.818	15918	2.5	13	-B	3	C		35			
498 HTPR	06	1525	1527	1534	S21	W53	.802	15918	2.7	9	-F		C	1527	30	.5		Y5
499 BIGB	06	1549	1557	1559	N20	E90	1.001	15933	13.4	10	-F	2	C	1557	20			Y5
500 HTPR	06	1558	1601	1608	S21	W53	.802	15918	2.7	10	-F		C	1601	20	.3		Y5
501 BIGB	06	1600	1613	1620	S20	W90	.999	15916	30.9	20	?N	2	C	1613	60			Y5
	IMP.1 NO 1 HTPR			RAMY	40LL													
502 HTPR	06	1602	1602	1607	S24	W63	.890	15918	1.9	5	-F	*	C	1602	10	.2		Y5
503 HTPR	06	1640		1705D	S21	W54	.811	15918	2.6	25D	-F		C	1648	20	.3		Y5
GRP73504	06	1727	1738	1800	S27	E58	.855	15929	11.1	33	-B						E	
HOLL	06	1727	1738	1800	S26	E58	.853	15929	11.1	33	-B	3	C		46			
HUAN	06	1729E		1732D	S29	E59	.866	15929	11.2	30	-F	1	P				E	
GRP73505	06	1818+1	1819+3	1827	S22	W56	.831	15918	2.6	9	-N				45	.8	E	
HOLL	06	1818	1819	1827	S27	W60	.870	15918	2.3	9	-B	3	C		58		DE	
HUAN	06	1819	1822	1827	S21	W56	.838	15918	2.6	8	-N	1	C	1822	40	.7	E	
PALE	06	1819	1819	1824	S23	W57	.841	15918	2.5	5	-B	3	C		51		DE	
BIGB	06	1820E	1820	1832	S22	W52	.794	15918	2.9	12D	-N	2	P	1820	30	.6	E	
GRP73506	06	1819+6	1820	1838	S29	E58	.858	15929	11.1	19	-N						E	
BIGB	06	1819	1820	1838	S29	E57	.850	15929	11.0	19	-N	2	C	1820	40	.8	E	
HUAN	06	1825		1834D	S29	E59	.866	15929	11.2	90	-F	1	P	1829	40	.7	E	
GRP73507	06	1828+5	1832+1	1839	N20	E74	.975	15933	12.3	11	-F							
PALE	06	1828	1832	1839	N18	E72	.966	15933	12.2	11	-F	3	C					
RAMY	06	1833	1833	1838	N22	E77	.986	15933	12.5	5	-F	3	C					
508 BIGB	06	1829	1835	1850	N21	E90	1.001	15933	13.5	21	-N	2	C	1835	30		A	Y5
GRP73509	06	1935+2	1937+2	1947	S27	E56	.839	15929	11.0	12	-N				30	.6	E	
BIGB	06	1935	1939	1950	S29	E57	.850	15929	11.1	15	-N	2	C	1939	40	.8	E	
RAMY	06	1937	1937	1943	S26	E56	.837	15929	11.0	6	-B	3	C		20			
GRP73510	06	2051+4	2057+1	2106	N20	E76	.982	15933	12.6	15	1B				80		A	
HOLL	06	2051	2057	2106	N23	E78	.989	15933	12.7	15	1B	3	C					
RAMY	06	2054	2057	2059D	N18	E71	.962	15933	12.2	50	1B	3	V					
BIGB	06	2054	2058	2106	N21	E90	1.001	15933	13.6	12	1N	2	C	2058	90		A	
PALE	06	2055	2057	2102	N20	E75	.979	15933	12.5	7	1B	3	C		65			
511 CULG	06	2155E	2157U	2201D	N22	E88	1.000	15933	13.5	60	-N		P	2157	30			Y5
512 CULG	06	2229E	2229U	2236	N22	E90	1.001	15933	13.7	70	-N		P	2229	30		C	Y5
513 PALE	06	2328	2328	2344	S29	E54	.826	15929	11.0	16	-N	3	C		39		F	Y5
514 VORO	07	0303	0304	0317	S19	W70	.934	15918	1.9	14	?F		C	0304	134			Y5
	IMP.1 NO 1 PALE			MANI														
515 VORO	07	0348	0352	0359	N23	E77	.987	15933	12.9	11	?F		C	0352	179			Y5
	IMP.1 NO 1 PALE			MANI														
516 ABST	07	0716	0717	0720	N23	E80	.993	15933	13.3	4	?N		C	0717	87		DJV	Y5
	IMP.1 NO 1 MANI			HTPR														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
517 ABST	07	0720E	0726	0736D	N15	E75	.975	15933	12.9	16D	?F		P	0726	87		DJ	Y5
	IMP.1 NO : MANI			HTPR	CATA													
GRP73518	07	0824+0	0825	0827	N23	E78	.989	15933	13.2	3	-N						D	
ABST	07	0824	0825	0826D	N25	E80	.994	15933	13.4	2D	1F		P	0825	87		D	
ISTA	07	0824		0827	N22	E77	.986	15933	13.1	3	-N						D	
519 ABST	07	0836	0837	0839	N21	E70	.960	15933	12.6	3	?N		C	0837	87		DJV	Y5
	IMP.1 NO : HTPR			CATA														
520 ABST	07	0848	0853	0900	N25	E80	.994	15933	13.4	12	?F		C	0850	87		DJ	Y5
	IMP.1 NO : CATA																	
	07	1013	1025	NO FLARE PATROL														
	07	1030	1040	NO FLARE PATROL														
	07	1045	1110	NO FLARE PATROL														
	07	1120	1130	NO FLARE PATROL														
	07	0958	1001	NO FLARE PATROL														
521 HTPR	07	1432	1441	1452	S17	W66	.908	15918	2.7	20	-N		C	1441	50	1.1	E	Y5
522 RAMY	07	1441	1442	1451	S17	W50	.766	15920	3.9	10	-N	3	C		29			Y5
523 HTPR	07	1454	1457	1510	S28	E32	.606	15929	10.0	16	-F		C	1457	28	.2	E	Y5
GRP73524	07	1544+2	1546+2	1601	S13	W25	.431	15924	5.8	17	-N				35	.4	E	
HTPR	07	1544	1548	1605	S13	W27	.461	15924	5.6	21	-N		C	1548	30	.4	E	
RAMY	07	1546	1546	1556	S13	W23	.401	15924	5.9	10	-B	3	C		42			
GRP73525	07	1652+1	1653+0	1704	S24	W66	.911	15918	2.8	12	-B				35		F	
RAMY	07	1652	1653	1703	S23	W66	.910	15918	2.8	11	-B	3	C		28		F	
HOLL	07	1653	1653	1704	S26	W67	.918	15918	2.7	11	-B	3	C		35		F	
GRP73526	07	1752+2	1756+0	1804	S17	W52	.787	15920	3.8	12	-B				70	1.2	F	
HOLL	07	1752	1756	1827	S18	W52	.788	15920	3.8	35	1B	3	C		170		F	
RAMY	07	1754	1756	1804	S17	W52	.787	15920	3.8	10	-B	3	C		60		F	
PALE	07	1757E	1757U	1802	S17	W52	.787	15920	3.8	5D	-N	2	C		72		F	
GRP73527	07	1900	1926	1958	N17	E64	.923	15933	12.6	58	-N						D	
HOLL	07	1900	1926	2000	N17	E59	.889	15933	12.2	60	-B	2	C		24			
HUAN	07	1903E		1956	N18	E69	.952	15933	13.0	53D	-F	1	P				D	
528 CULG	07	2238E	2240	2244	N13	E78	.984	15936	13.8	6D	-F		P	2240	20			Y5
529 CULG	08	0033	0042	0058	N17	W34	.653	15923	5.5	25	-N		C	0042	30	.4		Y5
530 CULG	08	0209U	0209U	0223	S27	E52	.805	15930	12.0	14D	-N		P	0209	40	.7		Y5
531 CULG	08	0412	0419	0430	N17	E63	.916	15933	12.9	18	-N		C	0419	40	1.0		Y5
532 ABST	08	0458E	0506	0536	N19	E67	.943	15933	13.2	38D	?F		P	0506	79		E	Y5
	IMP.1 NO : TACH																	
533 ABST	08	0458E	0525	0541D	S27	E53	.813	15930	12.2	43D	-F	*	P	0525	79	1.4	DG	Y5
534 ABST	08	0458E	0525	0541D	S11	W33	.544	15924	5.7	43D	-N		P	0525	96	1.2	EJ	Y5
535 ABST	08	0644E	0713	0758D	S27	W01	.357	0	8.2	74D	-F		P	0713	87	1.0	D	Y5
GRP73536	08	0840+0	0840+2	0847	N20	E53	.851	15933	12.3	7	-F						DJ	
ABST	08	0840	0842	0846	N21	E54	.862	15933	12.4	6	-N		C	0842	87	1.6	DJ	
KANZ	08	0840E	0840	0847	N19	E52	.839	15933	12.3	7D	-F	2					D	
537 ABST	08	0855E	0920	0928D	S12	W33	.546	15924	5.9	33D	-F		P	0920	114	1.4	EJ	Y5
538 CATA	08	0915E	0915	0930D	S33	W80	.979	15918	2.4	15D	-N	1	P	0915	28			Y5
	08	1010	1020	NO FLARE PATROL														
	08	1030	1040	NO FLARE PATROL														
	08	1125	1127	NO FLARE PATROL														
	08	1200	1204	NO FLARE PATROL														
	08	1215	1218	NO FLARE PATROL														
GRP73539	08	1237	1246 1254	1318	N15	E56	.861	15933	12.7	41	-B						F	
RAMY	08	1237	1254	1322	N18	E58	.884	15933	12.9	45	1B	3	C		101		F	
ZURI	08	1238E	1246	1314	N13	E55	.847	15933	12.7	36D	-N		P	1246	80	1.6		

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONC	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
	08	1403	1405	NO FLARE PATROL														
	08	1410	1416	NO FLARE PATROL														
	08	0608	0611	NO FLARE PATROL														
	08	0940	0955	NO FLARE PATROL														
GRP73540	08	1508>9	1525+3	1540	S30	W84	.990	15918	2.3	32	-F						D	
RAMY	08	1508	1525	1540	S30	W81	.982	15918	2.6	32	-N	3	C					
HUAN	08	1524	1528	1539	S30	W87	.995	15918	2.1	15	-F	1	C	1528	10		D	
541 HUAN	08	1530	1536	1541	S12	W41	.654	15924	5.6	11	-F	1	C	1536	10	.1	D	Y5
GRP73542	08	1822+0	1822+1	1829	N20	E53	.851	15933	12.7	7	-N				60	1.1		
BIGB	08	1822	1823	1829	N22	E56	.880	15933	13.0	7	-N	2	C	1823	70	1.1		
HOLL	08	1822	1822	1828	N19	E51	.831	15933	12.6	6	-B	3	C		48		DE	
543 HOLL	08	1844	1849	1854	N19	E51	.831	15933	12.6	10	-B	3	C		21			Y5
544 BIGB	08	1935	2000	2030	N02	E90	1.000	15937	15.6	55	?F	2	P	2000	60			Y5
	IMP.1 NO : HOLL PALE																	
545 CULG	08	2133E	2243U	0205	S24	W08	.333	15926	8.3	2720	-N		C	2243	130	1.7	G	Y5
546 CULG	09	0001	0015U	0045	N01	E90	1.000	15937	15.8	44	-F		C	0015	10			Y5
547 CULG	09	0103	0105	0138	S28	E25	.534	15929	10.9	35	-F		C	0105	50	.6		Y5
GRP73548	09	0106+4	0110+2	0118	N19	E57	.879	15933	13.3	12	-N				50	1.0	E	
CULG	09	0106	0112	0124	N19	E58	.886	15933	13.4	18	-N		C	0112	30	.6		
VORO	09	0109	0110	0118	N20	E58	.888	15933	13.4	9	1F		C	0110	152	3.1	E	
PEKG	09	0110	0111	0116	N19	E57	.879	15933	13.3	8	-B		C	0111	67		E	
PALE	09	0111E	0112	01150	N17	E57	.873	15933	13.3	40	-N	3	C		36		DE	
549 CULG	09	0204	0214	0225	N01	E90	1.000	15937	15.8	21	-N		C	0214	20			Y5
550 CULG	09	0216	0256	0320	N35	E88	1.001	0	15.7	64	-F		C	0256	20			Y5
GRP73551	09	0310+5	0312+5	0330	N25	E21	.604	0	10.7	20	-F				80	1.0	G	
CULG	09	0310	0315	0333	N24	E22	.601	0	10.8	23	-N		C	0315	60	1.0	G	
VORO	09	0311	0312	0314	N26	E21	.616	0	10.7	3	-F		C	0312	90	1.1	E	
PEKG	09	0315	0317	0330	N25	E21	.604	0	10.7	15	-F		C	0318	25		D	
552 CULG	09	0406	0412	0424	N06	E88	1.000	15937	15.8	18	-F		C	0412	10			Y5
GRP73553	09	0450+5	0455+4	0517	S33	E27	.599	15929	11.2	27	-F				100	1.3	E	
CULG	09	0450	0455	0517	S33	E27	.599	15929	11.2	27	-N		C	0455	80	.9	F	
MITK	09	0451	0459	0506	S38	E27	.646	15929	11.2	15	-F		C	0459			E	
PEKG	09	0455	0458	0520	S33	E27	.599	15929	11.2	25	-F		C	0458	126		E	
GRP73554	09	0543	0552	0624	S28	E25	.534	15929	11.1	41	-N						F	
CULG	09	0543	0552	0635	S30	E24	.543	15929	11.0	52	-N		C	0552	60	.7	F	
MANI	09	0602E	0602U	0612	S27	E27	.547	15929	11.3	100	-N	3	C		50		F	
555 CULG	09	0643	0646	0655	N06	E87	.999	15937	15.8	12	-N		C	0646	30			Y5
556 KANZ	09	0716	0740	0759	N03	E85	.997	15937	15.7	43	-F	2						Y5
GRP73557	09	0843>9	0915+1	0928	S15	W90	1.000	15918	2.6	45	-N							
KANZ	09	0843	0915	0934	S15	W90	1.000	15918	2.6	51	-N	1						
ZURI	09	0912	0916	0922	S16	W90	1.000	15918	2.6	10	-N		C	0916	180			
558 ABST	09	0921E	0927	09440	N33	E34	.773	15935	11.9	230	-F		P	0927	122	1.9	EGJ	Y5
559 ABST	09	0921E	0944	0944U	S30	E24	.543	15929	11.2	230	?F		P	0944	227	2.7	FJ	Y5
	IMP.1 NO : KANZ ZURI MONT																	
GRP73560	09	1039+2	1041+4	1048	N20	E51	.834	15933	13.3	9	-F				50	.9	E	
MONT	09	1039	1041	1048	N20	E52	.842	15933	13.3	9	-F		C	1041	50		E	
ZURI	09	1040	1042	1048	N19	E51	.830	15933	13.3	8	-F		C	1042	80	1.5		
KAND	09	1041	1045	1049	N20	E51	.834	15933	13.3	8	-F		C		21	.4	E	
GRP73561	09	1042>9	1056+0	1105	N04	E85	.997	15937	15.8	23	-N						FK	
KANZ	09	0959	1056	1114	N04	E85	.997	15937	15.8	75	-N	*					FK	
KAND	09	1042	1056	1105	N06	E85	.997	15937	15.8	23	1N	*	C					
ZURI	09	1052	1056	1103	N03	E90	1.000	15937	16.2	8	-F	*	C	1056	110			

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP73562	09	1142+0	1142+2	1150	N07	E76	.974	15937	15.2	8	-B				80		
KANZ	09	1142	1142	1150	N07	E75	.970	15937	15.1	8	-B	2					
ZURI	09	1142	1144	1150	N06	E80	.987	15937	15.5	8	-B		C	1144	100		
RAMY	09	1142	1143	1149	N08	E76	.975	15937	15.2	7	-N	3	C		62		
GRP73563	09	1212+3	1215+1	1223	S28	E19	.475	15929	10.9	11	-F				50	.6	
ZURI	09	1212	1216	1230	S29	E19	.487	15929	10.9	18	-F		C	1216	70	.8	
RAMY	09	1214	1215	1223	S28	E19	.475	15929	10.9	9	-N	3	C		31		
KANZ	09	1215	1215	1223	S27	E19	.464	15929	10.9	8	-F	2					
GRP73564	09	1216+2	1226 1237+3	1316	N05	E87	.999	15937	16.0	60	1B						
ZURI	09	1216	1240	1324	N03	E90	1.000	15937	16.3	68	2B		C	1240	180		
KANZ	09	1218	1237	1316	N05	E87	.999	15937	16.0	58	1B	3					
RAMY	09	1218	1226	1248	N05	E85	.997	15937	15.9	30	1B	3	C				
GRP73565	09	1508>9	1508+2 1519+0	1521	N19	E38	.788	15933	12.5	13	-F						
KANZ	09	1508	1508	1515	N20	E35	.684	15933	12.3	7	-F	3					
ZURI	09	1510	1510	1516	N19	E36	.687	15933	12.3	8	-F		C	1510	60	.9	
KANZ	09	1511	1519	1523	N18	E41	.732	15933	12.7	12	-F	3					
RAMY	09	1518	1519	1521	N20	E39	.724	15933	12.6	3	-N	3	C		42		
GRP73566	09	1515>9	1523+4	1528	N06	E90	1.000	15937	16.4	13	-N						
KANZ	09	1515	1523	1527	N07	E90	1.000	15937	16.4	12	-B	3					
BIGB	09	1526	1527	1529	N05	E90	1.000	15937	16.4	3	-F	2	C	1527	20		
GRP73567	09	1620+2	1622+2	1632	N20	E40	.733	15933	12.7	12	-N						
RAMY	09	1620	1624	1630	N20	E39	.724	15933	12.6	10	-N	3	C		92		
HOLL	09	1622	1622	1633	N21	E42	.758	15933	12.8	11	-N	3	C		21		
568 HUAN	09	1829E		1836	N18	E50	.818	15933	13.5	7D	-F	1	P				Y5
569 HUAN	09	1925		1929	N11	E63	.906	15936	14.5	4	-F	1	C				Y5
	09	1941	1949	NO FLARE PATROL													
	09	1955	2004	NO FLARE PATROL													
	09	2008	2013	NO FLARE PATROL													
	09	2024	2031	NO FLARE PATROL													
570 MITK	10	0458	0504	0512	N11	E90	1.000	15948	17.0	14	?B		C	0504	220		EH	Y5
	IMP.1 NO : TAC4																	
GRP73571	10	0528	0538+0	0548	00	E73	.957	15937	15.7	20	-N				60		
TACH	10	0528	0538	0548	S00	E74	.962	15937	15.8	20	1F		C	0538	71		D	
PEKG	10	0538E	0538	0548	S00	E73	.957	15937	15.7	10D	-B		P	0538	50		E	
572 ABST	10	0610E	0615	0617D	S27	W24	.515	15940	8.5	7D	-F		P	0615	148	1.8	E	Y5
GRP73573	10	0615	0616 0622	0630	N15	W69	.948	15939	5.1	15	-N						E	
PEKG	10	0615	0616	0630	N15	W69	.948	15939	5.1	15	-N		C					
PEKG	10	0615	0622	0630	N15	W69	.948	15939	5.1	15	-N		C	0622	38		E	
GRP73574	10	0627	0629	0653	S13	W59	.853	15924	5.8	26	1B				140	2.7	E	
PEKG	10	0627	0629	0645	S13	W59	.853	15924	5.8	18	1B		C	0629	147		E	
MITK	10	0632E		0700	S13	W60	.861	15924	5.8	28D	1B		P	0632	130	2.5	E	
GRP73575	10	0834+1	0838+2	0844	N07	E87	.999	15948	16.9	10	-F				50			
ZURI	10	0834	0838	0842	N06	E90	1.000	15948	17.1	8	-N		C	0838	60			
CATA	10	0835	0840	0845	N05	E85	.997	15948	16.7	10	-F	2	C	0840	39			
576 ZURI	10	0952	0958	1010	N04	E75	.968	15937	16.0	18	-N		C	0958	70			Y5
GRP73577	10	1140+2	1142+3	1151	N02	E69	.936	15937	15.7	11	-B				70			
CATA	10	1140	1145	1155	N03	E67	.924	15937	15.5	15	1N	2	C	1145	84			
ZURI	10	1142	1142	1146	N01	E71	.947	15937	15.8	4	-B		C	1142	60			
578 CATA	10	1215	1220	1235	N25	E85	.999	15943	16.9	20	-N	2	C	1220	28			Y5
GRP73579	10	1249+1	1250	1254	S29	E07	.406	15929	11.1	5	-F							
HUAN	10	1249		1254	S29	E08	.410	15929	11.1	5	-F	1	C					
ZURI	10	1250	1250	1254	S29	E07	.406	15929	11.1	4	-F		C	1250	50	.6		
580 ZURI	10	1258	1304	13120	N16	W71	.959	15939	5.2	140	-F		P	1304	40			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.		
GRP73581	10	1400+3	1404	1410	S12	W84	.894	15924	5.8	10	-F							
KANZ	10	1403	1424	1458	S12	W84	.894	15924	5.8	58	-F	2						
ZURI	10	1402	1404	1410	S11	W83	.886	15924	5.9	8	-N		C	1404	40	.9		
HUAN	10	1403		1408	S12	W84	.894	15924	5.8	5	-F	1	C					
GRP73582	10	1428+0		1454	N15	W75	.975	15939	5.0	26	-F						DG	
MCMA	10	1428E		1454	N17	W73	.969	15939	5.1	26D	-N		C	1435			D	
HUAN	10	1428		1451	N15	W75	.975	15939	5.0	23	-F	*	C				D	
KANZ	10	1446		1525D	N15	W75	.975	15939	5.0	39D	-F	*					G	
583 MCMA	10	1505	1517	1540	N17	W73	.969	15939	5.2	35	-F		C	1517			D	Y5
584 MCMA	10	1619	1623	1633	S12	W84	.894	15924	5.9	14	-N		C	1623	30	.7	E	Y5
GRP73585	10	1720+8	1734+6	1808	N07	E57	.851	15937	15.0	48	-N				80	1.5	EL	
MCMA	10	1720	1734	1835	N08	E57	.853	15937	15.0	75	-B		C	1734	50	1.0	EL	
RAMY	10	1720	1735	1805	N08	E58	.862	15937	15.1	45	1B	3	C		158		F	
BIGB	10	1731	1740	1800	N06	E58	.781	15937	14.5	29	-N	2	C	1740	110	1.6		
HUAN	10	1733		1810D	N07	E58	.860	15937	15.1	37D	-N	1	P	1735	45	.9	E	
586 HUAN	10	1748	1755	1804	N15	W75	.975	15939	5.1	16	-F	1	C	1755	20		D	Y5
587 HUAN	10	1802		1810D	N01	E67	.922	15937	15.8	8D	-F	*	P					Y5
GRP73588	10	1816+2	1824 1846	1855	S12	W67	.916	15924	5.7	39	-N						EK	
MCMA	10	1816	1837	1855	S12	W65	.901	15924	5.9	39	-N		C	1837	50	1.2	EK	
RAMY	10	1818	1824	1826	S11	W67	.916	15924	5.7	8	-N	3	C		17			
RAMY	10	1837	1846	1858	S11	W67	.916	15924	5.8	21	-B	3	C		59			
HUAN	10	1849E		1853	S12	W68	.922	15924	5.7	4D	-F	1	P	1850	20			
GRP73589	10	2040+1	2042+3	2044	N15	W75	.975	15939	5.2	4	-F				25			
BIGB	10	2040	2042	2043	N16	W75	.976	15939	5.2	3	-N	2	C	2042	30			
RAMY	10	2041	2042	2044	N15	W76	.979	15939	5.2	3	-F	3	C		16			
590 BIGB	10	2052E	2052J	2055	S11	E68	.923	15938	16.0	3D	-N	2	P	2052	10		D	Y5
591 RAMY	10	2053	2053	2055D	S11	W68	.923	15924	5.8	2D	-N	3	C		14			Y5
592 BIGB	10	2104	2105	2113	N04	E66	.918	15937	15.8	9	-N	2	C	2105	50			Y5
GRP73593	10	2247+4	2251+1	2257	N02	E61	.878	15937	15.5	10	-N				50	1.0	E	
BIGB	10	2247	2251	2257	N11	E61	.891	15937	15.5	10	-N	2	C	2251	50	1.1		
VORO	10	2248	2252	2259	N02	E62	.886	15937	15.6	11	-F		C	2252	99		E	
PALE	10	2251	2251	2257	S00	E61	.876	15937	15.5	6	-N	3	C		26		DE	
594 VORO	11	0021	0026	0044	N10	E50	.791	15936	14.8	23	-F		C	0026	81	1.3	E	Y5
595 VORO	11	0137	0141	0205	N17	W90	1.000	15923	4.3	31	-N		C	0141	72		DJ	Y5
596 VORO	11	0205	0208	0212	N08	E57	.853	15937	15.4	7	-F		C	0208	72	1.3	D	Y5
597 VORO	11	0257	0303	0318	N20	E26	.594	15933	13.1	21	-F		C	0303	108	1.3	E	Y5
598 VORO	11	0304	0307	0314	N04	E60	.872	15937	15.6	10	-F		C	0307	54	1.1	DJ	Y5
	11	0442	0452	NO FLARE PATROL														
	11	0459	0511	NO FLARE PATROL														
599 ABST	11	0521	0524	0529	N01	E58	.851	15937	15.6	8	-N		C	0524	87	1.6	DJ	Y5
600 ABST	11	0543	0544	0556	N17	W85	.999	15939	4.9	13	?N		C	0544	87		DJ	Y5
	IMP.1 NO # MITK																	
601 ABST	11	0543	0553	0616	N30	E84	.999	15942	17.5	33	?F		C	0553	96		DJ	Y5
	IMP.1 NO # MITK																	
GRP73602	11	0550+3	0553+2	0605	N05	E69	.938	15937	16.4	15	1F				140		E	
ABST	11	0550	0553	0607	N06	E69	.939	15937	16.4	17	1N		C	0553	175		E	
MITK	11	0553	0555	0603	N05	E69	.938	15937	16.4	10	1F		C	0555	110			
GRP73603	11	0614+2	0616+4	0630	N20	E29	.623	15933	13.4	16	-N						E	
ABST	11	0614	0616	0634D	N19	E29	.615	15933	13.4	20D	1N		P	0616	244	3.2	E	
MITK	11	0616	0623	0625	N21	E29	.632	15933	13.4	9	-F		C	0620			E	
604 ABST	11	0723E	0724	0736D	N06	E54	.821	15937	15.4	13D	-N		P	0724	96	1.7	E	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg		
605 ABST	11	0730	0734	0804D	S26	W41	.694	15940	8.2	34D	1F		P	0734	148	2.1	F	Y5
GRP73606	11	0834E	0842+0850	0903	N10	E70	.948	15948	16.6	29	1N						E	
ZURI	11	0834E	0842	0850D	N11	E75	.972	15948	17.0	16D	2N		P	0842	550			
ATHN	11	0842E	0850	0915	N07	E70	.946	15948	16.6	33D	-F		1	0850	98	2.8		
MANI	11	0842E	0842U	0847	N10	E67	.931	15948	16.4	5D	-N	3	C		20			
ABST	11	0900E	0902	0915	N10	E71	.954	15948	16.7	15D	1N		P	0902	131		E	
607 ABST	11	0914E	0916	0920	N20	E70	.959	15943	16.6	6D	1N		C	0916	87		DJ	Y5
608 ABST	11	0938	0944	1002	N02	E57	.843	15937	15.7	24	-F		C	0944	87	1.7	EJ	Y5
609 CATA	11	1115	1115	1125	N12	W90	1.000	15923	4.7	10	-N	2	C	1115	28			Y5
610 WEND	11	1131E		1154	S28	W41	.703	15940	8.4	23D	-N		V					Y5
611 CATA	11	1235	1240	1245D	N12	W90	1.000	15923	4.8	10D	1F	2	P	1240	56			Y5
612 ZURI	11	1303	1303	1309	N16	W90	1.000	15923	4.8	6	-N		C	1303	50			Y5
GRP73613	11	1325+2	1327+2 1346	1351	S26	W42	.705	15940	8.4	26	-N				100	1.4		
HUAN	11	1325	1327	1341	S27	W44	.729	15940	8.3	16	-N	2	C	1327	65	.9		
RAMY	11	1327	1329	1351	S27	W40	.688	15940	8.6	24	-B	3	C		125			
ZURI	11	1339E	1339	1341D	S26	W43	.715	15940	8.3	2D	-N		P	1339	100	1.5		
HOLL	11	1345E	1346U	1351	S26	W41	.694	15940	8.5	6D	-N	3	C		59			
GRP73614	11	1335	1341+4	1402	N08	E50	.786	15937	15.3	27	2B						EU	
HUAN	11	1335	1341	1407	N08	E50	.786	15937	15.3	32	1N	1	C	1341			E	
ZURI	11	1339E	1341	1341D	N08	E49	.775	15937	15.2	2D	3B		P	1341	1060	18.0		
HOLL	11	1344E	1345J	1356	N04	E53	.807	15937	15.5	12D	1B	3	C		228		UDE	
615 HUAN	11	1357	1400	1404	N10	E75	.972	15948	17.2	7	-F	1	C	1400	25		D	Y5
616 HUAN	11	1500	1501	1504	N17	E18	.485	15933	13.0	4	-N	1	C	1501	20	.2	D	Y5
GRP73617	11	1516+1	1521+6	1537	N11	E37	.650	15936	14.4	21	-N				30	.4		
RAMY	11	1516	1521	1542D	N11	E37	.650	15936	14.4	26D	-N	3	C		36			
HUAN	11	1517E		1534	N12	E37	.655	15936	14.4	17D	-N	1	P	1518	20	.2	DC	
HOLL	11	1517	1527	1537	N11	E36	.638	15936	14.3	20	-N	3	C		60		F	
GRP73618	11	1609+2	1614+1	1630	S26	W42	.705	15940	8.5	21	-N				30	.4	D	
HOLL	11	1609	1614	1633	S26	W42	.705	15940	8.5	24	-N	3	C		51			
HUAN	11	1609		1630	S26	W45	.736	15940	8.3	21	-F	1	C	1620	20	.3	D	
RAMY	11	1611	1615	1624	S27	W42	.709	15940	8.5	13	-N	3	C		25			
619 RAMY	11	1632	1633	1637	N27	E70	.967	15942	16.9	5	-F	3	C		11			Y5
620 RAMY	11	1656	1702	1714	N29	E72	.976	15942	17.1	18	-F	*	C		21			Y5
620 HUAN	11	1659		1718D	N30	E70	.970	15942	17.0	19D	-F	*	C	1700	20		D	Y5
GRP73621	11	1657+1	1701+1	1723	N19	E17	.501	15933	13.0	26	-B				120	1.4		
RAMY	11	1657	1701	1724	N18	E17	.488	15933	13.0	27	-B	3	C		134			
HUAN	11	1658		1718D	N19	E18	.509	15933	13.1	20D	-N	1	P	1700	45	.5		
HOLL	11	1658	1702	1722	N20	E15	.497	15933	12.8	24	-B	3	C		117			
622 RAMY	11	1714	1717	1720	S27	W42	.709	15940	8.6	6	-N	3	C		17			Y5
623 RAMY	11	1718	1723	1726	N27	E70	.967	15942	17.0	8	-F	*	C		12			Y5
GRP73624	11	1727+1	1733+2	1739	S26	W43	.715	15940	8.5	12	-N				70	1.0		
RAMY	11	1727	1735	1739	S27	W43	.719	15940	8.5	12	-N	3	C		47			
HOLL	11	1728	1733	1739D	S26	W43	.715	15940	8.5	11D	-N	3	C		87			
625 RAMY	11	1732	1733	1736	N19	E17	.501	15933	13.0	4	-N	3	C		35			Y5
626 RAMY	11	1745	1746	1753	S27	W43	.719	15940	8.5	8	-N	3	C		20			Y5
627 RAMY	11	1756	1756	1759	S27	W43	.719	15940	8.5	3	-N	3	C		19			Y5
GRP73628	11	1942	2008+3	2027	S27	W44	.729	15940	8.5	45	-N				35	.5		
BIGB	11	1942	2011	2027	S28	W45	.743	15940	8.4	45	-N	3	P	2011	40	.6		
PALE	11	1956E	2008J	2020D	S27	W44	.729	15940	8.5	24D	-N	2	C		25		DE	
629 BIGB	11	1948	1950	2025	S14	E55	.816	15938	16.0	37	-N	3	P	1950	70	1.3	E	Y5

Hα SOLAR FLARES

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.		
GRP73630	11	2135	2147+6	2225	N05	E71	.950	15948	17.2	50	1N				220			
BIGB	11	2135	2153	2236	N06	E72	.956	15948	17.3	61	1N	3	P	2153	240			
PALE	11	2141E	2147	2214	N05	E71	.950	15948	17.2	330	1N	3	C		201		FDE	
631 PALE	11	2157E	2201U	2224D	N19	E13	.470	15933	12.9	270	-B	3	C		61		DE	Y5
632 CULG	12	0554	0603	0611	N22	E08	.484	15933	12.8	17	-N		C	0603	40	.5	F	Y5
633 CULG	12	0630	0638	0652	N15	E52	.825	15943	16.2	22	-N		C	0638	50	.8	F	Y5
634 HTPR	12	0645	0646	0650	S25	W55	.828	15940	8.2	5	-F		C	0646	20	.3		Y5
635 HTPR	12	0839	0840	0844	S25	W56	.837	15940	8.2	5	-N		C	0840	20	.3		Y5
636 HTPR	12	0853	0856	0857	N19	E10	.458	15933	13.1	4	-F		C	0856	20	.2		Y5
637 HTPR	12	0953	0954	0957	N05	E40	.661	15937	15.4	4	-F		C	0954	20	.3		Y5
	12	1056	1101	NO FLARE PATROL														
	12	1109	1115	NO FLARE PATROL														
	12	1127	1136	NO FLARE PATROL														
	12	1142	1150	NO FLARE PATROL														
	12	1221	1236	NO FLARE PATROL														
	12	1247	1252	NO FLARE PATROL														
	12	0127	0148	NO FLARE PATROL														
	12	0206	0317	NO FLARE PATROL														
	12	0357	0512	NO FLARE PATROL														
	12	0528	0535	NO FLARE PATROL														
GRP73638	12	1443+1	1446+1	1532	N06	E47	.748	15937	16.1	19	-N				20	.3	D	
HTPR	12	1443	1447	1502	N09	E45	.734	15937	16.0	19	-F		C	1447	20	.3		
BIGB	12	1444	1446	1457	N06	E47	.748	15937	16.1	13	-N	2	C	1446	10	.2		
HUAN	12	1448E		1504	N05	E47	.745	15937	16.1	16D	-N	1	P	1449	20	.3	D	
GRP73639	12	1453	1456	1504	S23	E57	.843	15949	16.9	11	-F				10	.2		
RAMY	12	1453	1456	1458	S24	E56	.835	15949	16.8	5	-F	3	C		14			
BIGB	12	1457E	1457U	1510	S23	E59	.859	15949	17.0	13D	-F	2	P	1457	10	.2		
GRP73640	12	1516+1	1517+0	1519	N05	E37	.623	15937	15.4	3	-N				30	.4	E	
HTPR	12	1516	1517	1519	N05	E37	.623	15937	15.4	3	-F		C	1517	20	.2		
RAMY	12	1516	1517	1519	N07	E38	.643	15937	15.5	3	-N	3	C		39			
HUAN	12	1517	1517	1519	N04	E37	.619	15937	15.4	2	-N	2	C	1517	30	.3	E	
GRP73641	12	1529+1	1532+0	1536	N19	E02	.421	15933	12.8	7	-F				20	.2	D	
RAMY	12	1529	1532	1535	N19	E05	.428	15933	13.0	6	-N	3	C		21			
HUAN	12	1530	1532	1536	N19	W01	.421	15933	12.6	6	-F	1	C	1532	20	.2	D	
642 BIGB	12	1534	1550	1607	N30	E60	.925	15942	17.1	33	-F	2	C	1550	20	.4		Y5
GRP73643	12	1547+1	1558+0	1626	N12	E53	.825	15948	16.6	39	1N				120	2.1	E	
BIGB	12	1547	1558	1632	N13	E53	.828	15948	16.6	45	1N	2	C	1558	150	2.6		
HUAN	12	1548	1558	1608	N13	E53	.828	15948	16.6	20	-N	1	C	1558	85	1.5	E	
HTPR	12	1548	1558	1629	N12	E54	.835	15948	16.7	41	-N		C	1558	100	1.7	E	
RAMY	12	1548	1558	1622	N12	E53	.825	15948	16.6	34	1B	3	C		213		F	
644 BIGB	12	1637	1638	1640	N25	E55	.886	15942	16.8	3	-F	3	P	1638	30	.5	E	Y5
645 RAMY	12	1649	1700	1701	S24	E55	.827	15949	16.8	12	-F	3	C		22			Y5
646 BIGB	12	1717	1728	1747	N31	E57	.911	15942	17.0	30	-F	2	C	1728	20	.4		Y5
647 BIGB	12	1720	1723	1734	N07	E62	.892	15948	17.4	14	-F	2	C	1723	30	.7		Y5
GRP73648	12	1724+2	1727+2	1733	N01	E37	.610	15937	15.5	9	-N				40	.5		
HTPR	12	1724	1727	1734	N02	E38	.626	15937	15.6	10	-F		C	1727	30	.4		
BIGB	12	1725	1728	1733	N01	E38	.623	15937	15.6	8	-N	2	C	1728	60	.8		
HUAN	12	1726E		1731	S01	E37	.605	15937	15.5	5D	-N	1	P	1727	35	.4		
HOLL	12	1726	1729	1732	N03	E32	.547	15937	15.1	6	-N	2	C		34			
649 BIGB	12	1727	1733	1754	N08	E18	.385	15936	14.1	27	-F	2	C	1733	30			Y5
650 BIGB	12	1804	1820	1831	S21	E57	.840	15949	17.0	27	-N	3	C	1820	20	.4		Y5
651 RAMY	12	1836	1836	1840	S24	E54	.818	15949	16.8	4	-F	3	C		17			Y5
652 BIGB	12	1908	1911	1926	S22	E57	.841	15949	17.1	18	-F	2	C	1911	20	.4		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP73653	12	1950+9	2003+0	2037	S24	E55	.827	15949	17.0	47	-N				50	.9	E	
BIGB	12	1950	2003	2037	S22	E57	.841	15949	17.1	47	-N	2	C	2003	40	.8		
HOLL	12	1959	2003	2030	S24	E55	.827	15949	17.0	31	-B	3	C		58			
MCMA	12	2001E		2038	S24	E55	.827	15949	17.0	370	-N		C	2001	60	1.1	E	
GRP73654	12	2046+2	2051+1	2110	N06	E32	.560	15937	15.3	24	-N				35	.4	E	
MCMA	12	2046	2052	2058D	N05	E32	.555	15937	15.3	12D	-N		C	2052	30	.4	E	
BIGB	12	2048	2051	2110	N07	E33	.579	15937	15.3	22	-N	3	C	2051	40	.5	E	
GRP73655	12	2046+3	2115	2135	S23	E56	.834	15949	17.1	49	-N							
MCMA	12	2046		2058D	S24	E55	.827	15949	17.0	12D	-N	*	C					
BIGB	12	2049	2115	2135	S22	E57	.841	15949	17.1	46	-N	*	C	2115	30	.6		
GRP73656	12	2137+2	2155	2215	S23	E56	.834	15949	17.1	38	-N						E	
MCMA	12	2137E		2152D	S24	E55	.827	15949	17.0	15D	-N		C	2139	50	.9	E	
BIGB	12	2139	2155	2215	S22	E57	.841	15949	17.2	36	-N	3	C	2155	60	1.1		
657 BIGB	13	0003	0007	0031	S23	E53	.807	15949	17.0	28	-F	3	C	0007	20	.3		Y5
GRP73658	13	0024+0	0028+1	0044	N16	E60	.882	15952	17.5	20	1F				110	2.4	E	
BIGB	13	0024	0029	0047	N15	E60	.891	15952	17.5	23	-F	3	C	0029	90	1.9		
MITK	13	0024	0028	0040	N17	E61	.902	15952	17.6	16	1F		C	0028	130	3.1	E	
659 CULG	13	0132	0137	0205	N22	W06	.476	15933	12.6	33	-N		C	0137	60	.7		Y5
GRP73660	13	0240	0241+3	0252	N05	E31	.541	15937	15.4	12	-B				30	.4	F	
CULG	13	0240	0241	0252	N06	E31	.546	15937	15.4	12	-B		C	0241	20	.2		
MANI	13	0242E	0244	0251D	N04	E31	.537	15937	15.4	9D	-B	3	C		35		F	
661 PEKG	13	0310	0311	0313	S01	E31	.520	15937	15.5	3	-F		P	0311	42		D	Y5
662 ABST	13	0534	0535	0541	N20	W08	.453	15933	12.6	7	-F		C	0535	87	1.0	DV	Y5
GRP73663	13	0544+0	0546+4	0555	N05	E29	.514	15937	15.4	11	-N				40	.5	E	
ABST	13	0544	0546	0552	N05	E29	.514	15937	15.4	8	1N		C	0546	210	2.5	E	
HTPR	13	0544	0548	0553	N06	E29	.519	15937	15.4	9	-N		C	0548	30	.3	E	
CULG	13	0547U	0548	0556	N06	E30	.533	15937	15.5	9D	-F		C	0548	50	.6		
MANI	13	0549E	0550	0602	N05	E30	.527	15937	15.5	13D	-N	3	C		30		F	
GRP73664	13	0544+4	0557+7	0615	S24	E48	.761	15949	16.8	31	-N						K	
CULG	13	0544	0604	0623	S22	E48	.756	15949	16.8	36	-N		C	0604	50	.7		
ABST	13	0544	0557	0617	S24	E48	.761	15949	16.8	33	1N		P	0557	201	3.2	DK	
TACH	13	0548	0604	0613	S24	E50	.780	15949	17.0	25	-N		C	0604	106	1.8	E	
HTPR	13	0557	0602	0614	S23	E48	.758	15949	16.8	17	-N		C	0602	40	.6	E	
MANI	13	0601E	0601U	0613	S24	E49	.771	15949	16.9	12D	-N	3	C		35			
KIEV	13	0603E		0615D	S24	E48	.761	15949	16.9	12D	-F		P	0603	100	1.6	D	
GRP73665	13	0606+3	0613+4	0623	N05	E29	.514	15937	15.4	17	-N						EJK	
TACH	13	0547	0613	0622	N05	E29	.514	15937	15.4	35	1N	*	C	0613	186	2.2	K	
ABST	13	0606	0610	0638	N05	E29	.514	15937	15.4	32	1B	*	C	0610	218	2.5	EJ	
CULG	13	0607	0612	0626D	N06	E30	.533	15937	15.5	19D	-N	*	C	0612	90	1.1		
MITK	13	0609	0614	0623	N06	E30	.533	15937	15.5	11	-N	*	C	0614			E	
HTPR	13	0609	0612	0622	N06	E29	.519	15937	15.4	13	-B	*	C	0612	90	1.0	E	
MANI	13	0612E	0612U	0623	N05	E30	.527	15937	15.5	8D	-N	*	C		30			
666 CULG	13	0607	0610	0623	N19	E41	.736	15943	16.3	13	-F		C	0610	40	.6		Y5
GRP73667	13	0615	0620	0626D	N21	W07	.464	15933	12.7	11	-F							
CULG	13	0615	0620	0626D	N22	W07	.479	15933	12.7	11D	-F		C	0620	20	.2		
CULG	13	0616	0620	0626D	N20	W08	.453	15933	12.7	10D	-F		C	0620	40	.5		
668 ABST	13	0703	0704	0709D	N21	W07	.464	15933	12.8	6D	-F		P	0704	87	1.0	DV	Y5
669 KHAR	13	0830E		0841D	N04	E28	.494	15937	15.5	11D	-F		V				EL	Y5
GRP73670	13	0859+4	0902+4	0940	N21	W10	.477	15933	12.6	41	-N				50	.6	E	
HTPR	13	0859	0902	0940	N20	W10	.463	15933	12.6	41	-N		C	0902	40	.4	EF	
BERN	13	0900	0905	0938	N23	W07	.494	15933	12.9	38	-N		P					
MONT	13	0902	0906	0946	N21	W10	.477	15933	12.6	44	-N		C	0906	70			
KHAR	13	0902E		0933D	N22	W10	.492	15933	12.6	31D	1F		V	0924			E	
KANZ	13	0903		0908D	N21	W11	.483	15933	12.6	5D	-N	1					E	
671 KHAR	13	1012E		1030D	S28	E46	.753	15949	16.9	18D	?F		P	1021	140	2.1	E	Y5
	IMP.1 NO 1 HTPR MONT																	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg	
GRP73672	13	1047+8	1050+1	1057	N05	E24	.443	15937	15.2	10	-N				90	1.0	EL
HTPR	13	1047	1050	1057	N06	E27	.491	15937	15.5	10	-B		C	1050	70	.7	E
KHAR	13	1050	1051	1053	N04	E24	.437	15937	15.3	3	-N		P	1053	135	1.5	L
BERN	13	1050E	1050	1100	N04	E16	.321	15937	14.7	100	-B		P				
MONT	13	1053E	1053	1101	N05	E25	.457	15937	15.3	80	-N		C	1053	70		
CATA	13	1055	1055	1059D	N05	E24	.443	15937	15.3		-N	2	P	1055	84	.9	
673 KHAR	13	1156E		12120	S28	E48	.772	15949	17.1	170	-F		P	1208	80	1.2	Y5
674 HTPR	13	1220	1226	1238	N21	W11	.483	15933	12.7	18	-F		C	1226	50	.5	E Y5
GRP73675	13	1344+1	1345+3	1355	N18	W12	.447	15933	12.7	11	-F						E
HTPR	13	1344	1345	1350	N19	W11	.455	15933	12.7	6	-F		C	1345	20	.2	E
CATA	13	1345	1345	1400	N18	W13	.454	15933	12.6	15	-N	1	C	1345	56	.6	
GRP73676	13	1418+1	1426	1430	N32	E49	.866	15942	17.3	12	-F						
HUAN	13	1418E		1427	N33	E50	.876	15942	17.3	90	-F	1	P				
KANZ	13	1419	1426	1433	N32	E48	.859	15942	17.2	14	-F	2					
677 RAMY	13	1519E	1520U	1526	N21	W06	.461	15933	13.2	70	-N	3	C		24		Y5
678 RAMY	13	1520	1523	1525	S24	E44	.719	15949	16.9	5	-N	3	C		25		Y5
679 RAMY	13	1520	1524	1527D	N15	E52	.825	15952	17.5	70	-N	3	C		17		Y5
GRP73680	13	1610+4	1613+3	1620	N04	E21	.393	15937	15.2	10	-F				35	.4	EH
HTPR	13	1610		1615D	N05	E21	.480	15937	15.2	50	-F		C	1614	30	.3	E
RAMY	13	1613	1613	1621	N04	E26	.466	15937	15.6	8	-N	3	C		26		H
HUAN	13	1614	1616	1619	N05	E21	.480	15937	15.3	5	-F	1	C	1616	40	.4	E
HOLL	13	1614E	1616J	1620	N04	E22	.488	15937	15.3	60	-N	3	C		86		F
GRP73681	13	1627+2	1628+7	1650	N22	W14	.515	15933	12.6	23	-N				60	.7	E
HOLL	13	1627	1631	1653	N21	W06	.461	15933	13.2	23	-B	3	C		88		
HTPR	13	1627	1635	1650	N22	W16	.528	15933	12.5	23	-N		C	1635	70	.7	E
RAMY	13	1628	1628U	1656	N21	W14	.502	15933	12.6	28	-N	3	C		26		
HUAN	13	1628		1642D	N23	W15	.534	15933	12.6	140	-F	1	C				
HUAN	13	1629		1642D	N22	W14	.515	15933	12.6	130	-N	1	P	1631	50	.6	
682 HTPR	13	1636	1639	1700	N32	E47	.853	15942	17.2	24	-F		C	1639	20	.3	E Y5
GRP73683	13	1719+1	1719+6	1735	S25	W70	.936	15940	8.5	16	-N						
HOLL	13	1719	1719	1729	S25	W70	.936	15940	8.5	10	-N	3	C		11		
BIGB	13	1720	1725	1741	S26	W70	.937	15940	8.5	21	-N	2	C	1725	40		
684 HOLL	13	1721	1725	1727	N21	W06	.461	15933	13.3	6	-B	3	C		29		Y5
685 BIGB	13	1723	1724	1725	S24	E40	.676	15949	16.7	2	-N	3	C	1724	10	.1	D Y5
686 BIGB	13	1729	1800	1837	N30	E45	.829	15942	17.1	68	-N	2	C	1800	100	1.5	Y5
687 BIGB	13	1742	1750	1758	S22	E38	.644	15949	16.6	16	-N	3	C	1750	10	.1	D Y5
GRP73688	13	2020>9	2103	2115	N28	E44	.811	15942	17.1	55	-N						E
BIGB	13	2020	2103	2115	N27	E43	.798	15942	17.1	55	-N	3	C	2103	70	1.0	E
HUAN	13	2032		2052D	N30	E45	.829	15942	17.2	200	-F	1	P				E
	13	2207	2209	NO FLARE PATROL													
	13	0144	0155	NO FLARE PATROL													
689 CULG	13	2250	2252	2256	S22	E34	.597	15949	16.5	6	-F		C	2252	10	.1	Y5
690 CULG	13	2250	2256	2259	N02	E20	.365	15937	15.5	9	-F		C	2256	10	.1	Y5
691 CULG	13	2310E	2310	2316	N12	E20	.449	15937	15.5	60	-F		C	2310	10	.1	Y5
GRP73692	13	2311+9	2355+4	0023	N30	E41	.800	15942	17.0	72	1B				210	3.4	FU
HOLL	13	2311	2355	0026	N30	E41	.800	15942	17.0	75	1B	3	C		260		U F
PEKG	13	2320	2355	0024	N31	E41	.806	15942	17.0	64	1B		C	2400	210		E
CULG	13	2351	2355	0033	N29	E43	.809	15942	17.2	42	1N		C	2355	160	2.8	
BIGB	13	2356	2359	0012	N30	E42	.807	15942	17.1	16	-N	2	C	2359	110	1.5	
PALE	13	2358E	2358J	0020	N27	E39	.766	15942	16.9	220	1B	3	C		377		F
GRP73693	13	2339+6	2343+0 2350+0	0011	N06	E18	.366	15937	15.3	32	1N				250	2.7	FJKLJZ
CULG	13	2339	2343	0016	N08	E20	.411	15937	15.5	37	1B		C	2343	240	2.7	LKUFJ
HOLL	13	2340	2343	0017	N06	E18	.366	15937	15.3	37	1B	3	C		265		Z F
BIGB	13	2341	2350	0004	N06	E18	.366	15937	15.3	23	1N	2	C	2350	250		
PEKG	13	2345	2350	0005	N06	E19	.380	15937	15.4	20	-N		P	2350	147		E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP73694	13	2353>9	0004 2412	0035D	S14	E49	.753	15950	17.7	42	-F						G	
BIGB	14	0020	0023	0035	S15	E50	.765	15950	17.8	15	-F	2	C	0023	30	.5	EG	
CULG	13	2353	2404	0032	S12	E48	.740	15950	17.6	39	-F		C	2404	50	.8	FG	
CULG	13	2354	2412	0153	S13	E49	.752	15950	17.7	119	-N		C	2412	60	.9		
695 CULG	14	0006	0009	0015	N21	E38	.718	15943	16.9	9	-F		C	0009	60	.8		Y5
696 CULG	14	0016	0030	0049	S32	W69	.935	0	8.8	33	-F		C	0030	40		S	Y5
GRP73697	14	0115+7	0115 0123+5	0147	N30	E41	.799	15942	17.1	32	1B						HKUW	
PEKG	14	0115E	0115	0138	N32	E41	.812	15942	17.1	23D	1B		P	0115	168		E	
CULG	14	0121	0123	0155	N30	E44	.821	15942	17.4	34	-B		C	0123	70	1.2	TW	
VORO	14	0122	0128	0135	N31	E41	.806	15942	17.1	13	-B		C	0124	63	1.0	OHK	
PALE	14	0134E	0134J	0156	N27	E37	.749	15942	16.8	22D	2B	3	C		512		U F	
698 CULG	14	0123	0156	0314	S15	E53	.797	15950	18.0	111	-F	*	C	0156	50	.9		Y5
GRP73699	14	0313+2	0318	0327	N30	E39	.785	15942	17.1	14	-N				50	.8	E	
VORO	14	0313		0318D	N32	E40	.805	15942	17.1	5D	-N		P	0315	54	.8	E	
PEKG	14	0315	0318	0325	N30	E39	.785	15942	17.1	10	-F		C	0320	42		E	
PALE	14	0322E	0322J	0328D	N27	E37	.749	15942	16.9	6D	1N	3	C		157		F	
700 CULG	14	0320	0328	0349	S28	E30	.590	15949	16.4	29	-F		C	0328	40	.5		Y5
GRP73701	14	0333+4	0339+1	0358	N32	E42	.819	15942	17.3	25	-N				100	1.7	E	
CULG	14	0312	0339	0400	N31	E42	.813	15942	17.3	48	-N	*	C	0339	70	1.2	T	
MITK	14	0333		0342D	N32	E42	.819	15942	17.3	9D	-N	*	P	0342			E	
VORO	14	0335	0339	0358D	N33	E45	.844	15942	17.5	23D	1N	*	P	0339	134	2.9	E	
PEKG	14	0337	0340	0354	N33	E42	.824	15942	17.3	17	-B	*	P	0340	105		E	
GRP73702	14	0430	0435 0443	0450	N32	E40	.805	15942	17.2	20	?B						E	
PEKG	14	0430	0435	0450	N32	E40	.805	15942	17.2	20	?B		C	0435	139		E	
	IMP.1 NO ! MITK CULG																	
PEKG	14	0440	0443	0446	N32	E41	.812	15942	17.3	6	1B		C	0444	126		E	
GRP73703	14	0643E	0651 0730+3	0749	N30	E39	.785	15942	17.2	66	1N						EI	
KIEV	14	0643E	0651	0715D	N31	E41	.806	15942	17.4	32D	1N		C	0651	200	3.4	EI	
CULG	14	0707E		0708D	N30	E41	.799	15942	17.4	1D	1N		P	0708	160	2.7	TB	
CATA	14	0710E	0730	0750D	N32	E37	.784	15942	17.1	40D	1B	2	P	0730	224	3.5		
MITK	14	0716	0732	0748D	N31	E40	.798	15942	17.3	32D	-N		C	0732			E	
BUCA	14	0720	0733	0746	N30	E37	.770	15942	17.1	26	-N		C	0733	107	1.7	E	
PEKG	14	0720	0730	0745	N31	E39	.791	15942	17.2	25	-B		P	0732	97		E	
WEND	14	0720E		0748	N29	E38	.770	15942	17.2	28D	1N		V		330	4.9		
BERN	14	0729E	0731	0756	N30	E40	.792	15942	17.3	27D	1N		P					
KANZ	14	0740E		0752	N31	E38	.784	15942	17.2	12D	1N	3						
704 KHAR	14	0844E		0855D	N28	E40	.779	15942	17.4	11D	-F		V	0847			ET	Y5
705 KHAR	14	0910E		0920D	N28	E40	.779	15942	17.4	10D	-N		P	0912	100	1.6	HT	Y5
706 KHAR	14	0926E	0927	0940D	N28	E40	.779	15942	17.4	14D	-F		V	0927			T	Y5
GRP73707	14	1011+6	1022+4	1053	N07	E11	.289	15937	15.2	42	1N						EH	
KANZ	14	1011	1024	1053	N07	E11	.289	15937	15.2	42	1N	3						
BERN	14	1017	1022	1051	N08	E11	.302	15937	15.3	34	1N		P					
KHAR	14	1019E	1026	1122D	N07	E13	.312	15937	15.4	63D	1N		P	1030	300	3.1	EH	
708 KHAR	14	1043E		1104D	N26	E37	.742	15942	17.2	21D	-F		P	1049	50	.8	T	Y5
GRP73709	14	1105+1	1107+2	1116	N04	E11	.253	15937	15.3	11	-N							
KANZ	14	1105	1109	1116	N05	E11	.264	15937	15.3	11	-N	*						
KHAR	14	1105E		1117D	N04	E12	.266	15937	15.4	12D	-N	*	P	1110	100	1.0		
BERN	14	1106	1107	1116	N04	E11	.253	15937	15.3	10	-N	*	P					
710 KHAR	14	1106E		1145D	N28	E39	.772	15942	17.4	39D	-F		P	1119	75	1.3	T	Y5
GRP73711	14	1124+0	1127+1	1146	N19	W22	.543	15933	12.8	22	-N						H	
KANZ	14	1124	1128	1144	N19	W23	.552	15933	12.8	20	-N	2						
BERN	14	1124	1127	1148	N18	W22	.532	15933	12.8	24	1F		P					
KHAR	14	1125E	1128	1140D	N20	W21	.544	15933	12.9	15D	-N		P	1129	100	1.2	H	
712 RAMY	14	1202	1214	1303	N36	E36	.762	15942	17.2	61	?B	3	C		196			Y5
	IMP.1 NO ! KANZ LVOV																	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP73713	14	1306+1	1306+4	1321	N20	W21	.544	15933	13.0	15	-F						
KANZ	14	1306	1306	1321	N19	W24	.562	15933	12.7	15	-F	2					
RAMY	14	1307	1310	1320	N21	W18	.530	15933	13.2	13	-N	3	C		57		
714 KANZ	14	1325	1329	1341	N05	E10	.253	15937	15.3	16	-F	3					Y5
715 RAMY	14	1326	1327	1328	N29	E34	.739	15942	17.1	2	-N	3	C		22		Y5
716 RAMY	14	1328	1330	1338	N06	E37	.626	15948	17.3	10	-N	3	C		45		Y5
GRP73717	14	1331	1341 1406	1411D	N29	E33	.732	15942	17.0	40	-N						E
RAMY	14	1331	1341	1345	N30	E35	.755	15942	17.2	14	-N	3	C		42		
MCMA	14	1341E		1445D	N30	E33	.740	15942	17.0	64D	-N		C	1341	100	1.5	E
RAMY	14	1406	1406	1411	N28	E33	.724	15942	17.1	5	-N	3	C		18		
GRP73718	14	1358>9	1417+3	1436	N16	E39	.698	15952	17.5	38	-N				30	.4	H
MCMA	14	1358	1420	1440	N18	E41	.730	15952	17.7	42	-N		C	1420	35	.5	EH
HOLL	14	1416	1417	1432	N14	E38	.676	15952	17.4	16	-N	3	C		18		F
719 HOLL	14	1436	1438	1438D	N25	E31	.682	15942	16.9	2D	-B	3	V		54		Y5
GRP73720	14	1440+3	1442+3	1453	N04	E08	.218	15937	15.2	13	1B				310	3.2	FHL
MCMA	14	1440	1444	1452	N04	E07	.207	15937	15.1	12	-B		C	1444	150	1.5	L
RAMY	14	1441	1442	1454	N04	E09	.229	15937	15.3	13	1B	3	C		363		F H
HOLL	14	1441	1445	1452	N01	E14	.267	15937	15.7	11	1B	3	C		305		
KANZ	14	1443	1443	1455	N04	E08	.218	15937	15.2	12	1B	3					H
721 RAMY	14	1507	1509	1515	N28	E33	.724	15942	17.1	8	-B	3	C		28		Y5
GRP73722	14	1553+5	1602+8	1619	N06	E09	.255	15937	15.3	26	-N				35	.4	L
MCMA	14	1553	1602	1622	N07	E08	.259	15937	15.3	29	-F		C	1602	25	.3	EL
KANZ	14	1555	1606	1623	N06	E08	.245	15937	15.3	28	-N	3					L
RAMY	14	1558	1610	1616	N04	E14	.293	15937	15.7	18	-N	3	C		37		
HUAN	14	1600E		1614	N06	E10	.265	15937	15.4	14D	-N	1	P	1608	25	.3	D
GRP73723	14	1758+2	1802+0	1807	N07	E08	.259	15937	15.3	9	-F				30	.3	E
RAMY	14	1758	1802	1805	N07	E08	.259	15937	15.3	7	-N	3	C		31		
MCMA	14	1759	1802	1812	N08	E06	.258	15937	15.2	13	-F		C	1802	30	.3	E
HUAN	14	1800	1802	1807	N07	E08	.259	15937	15.4	7	-F	1	C	1802	35	.4	E
GRP73724	14	1758+4	1802+3	1809	S24	E29	.550	15949	16.9	11	-N				30	.4	E
RAMY	14	1758	1802	1809	S24	E29	.550	15949	16.9	11	-N	*	C		24		
BIGB	14	1801	1805	1816	S24	E30	.561	15949	17.0	15	-F	*	C	1805	30	.4	
MCMA	14	1801	1803	1810	S23	E30	.555	15949	17.0	9	-F	*	C	1803	30	.4	E
HOLL	14	1802	1804	1808	S26	E26	.531	15949	16.7	6	-N	*	C		37		
HUAN	14	1802	1804	1807	S24	E28	.538	15949	16.9	5	-N	*	C	1804	55	.6	E
GRP73725	14	1903+3	1908+1	1924	S24	E27	.526	15949	16.8	21	-N				50	.6	E
BIGB	14	1903	1909	1923	S25	E28	.545	15949	16.9	20	1N	3	C	1909	180	2.1	
MCMA	14	1905	1909	1927	S23	E30	.555	15949	17.0	22	-N		C	1910	50	.6	E
HOLL	14	1906	1908	1925	S24	E27	.526	15949	16.8	19	-B	3	C		59		
RAMY	14	1908E	1908J	1923	S24	E26	.515	15949	16.7	15D	-N	3	C		42		
GRP73726	14	1910+2	1912+1	1920	N07	E08	.259	15937	15.4	10	-N				50	.5	
HOLL	14	1910	1912	1920	N04	E13	.279	15937	15.8	10	-B	3	C		78		F
MCMA	14	1911	1912	1920	N07	E06	.243	15937	15.2	9	-N		C	1912	38	.3	E
RAMY	14	1912	1913	1920	N07	E08	.259	15937	15.4	8	-N	3	C		54		
GRP73727	14	1950+0	1951+0	1957	N05	E09	.241	15937	15.5	7	-B				50	.5	D
MCMA	14	1950	1951	1957	N06	E06	.227	15937	15.3	7	-B		C	1951	30	.3	D
HOLL	14	1950	1951	1957	N04	E12	.266	15937	15.7	7	-B	3	C		66		
728 BIGB	14	2028	2031	2040	N01	E14	.267	15937	15.9	12	-F	3	C	2031	20	.2	Y5
729 BIGB	14	2110	2116	2130	S24	E27	.526	15949	16.9	20	-F	3	C	2116	30	.3	Y5
GRP73730	14	2125+4	2126+5	2136	N30	E32	.732	15942	17.3	11	-F						D
CULG	14	2125E	2126	2137	N30	E33	.740	15942	17.4	12D	-F		P	2126	40	.6	T
BIGB	14	2129	2131	2135	N30	E32	.732	15942	17.3	6	-F	3	C	2131	10	.1	D
731 CULG	14	2135	2138	2150	N06	E06	.227	15937	15.3	15	-N		C	2138	20	.2	Y5
GRP73732	14	2148+5	2155+2	2208	N30	E30	.717	15942	17.2	20	-F						E
BIGB	14	2148	2157	2217	N31	E31	.733	15942	17.2	29	-F	3	C	2157	50	.6	E
CULG	14	2153	2155	2159	N30	E30	.717	15942	17.2	6	-F		C	2155	10	.1	T

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
733 CULG	14	2205	2206	2209	N05	E11	.264	15937	15.7	4	-F		C	2206	20	.2		Y5
GRP73734	14	2256+4	2303+0	2313	S23	E26	.507	15949	16.9	17	-N				30	.4		
CULG	14	2256	2303	2317	S23	E27	.519	15949	17.0	21	-N		C	2303	40	.5		
HOLL	14	2300	2303	2309	S24	E25	.503	15949	16.8	9	-N	3	C		24			
GRP73735	14	2302+3	2307+1	2318	N05	E07	.221	15937	15.5	16	-B				35	.4		
CULG	14	2302	2308	2317	N06	E05	.220	15937	15.3	15	-B	*	C	2308	30	.3	T	
HOLL	14	2305	2307	2319	N04	E09	.229	15937	15.6	14	-B	*	C		37		DE	
GRP73736	14	2302+5	2307+1	2313	N30	E31	.725	15942	17.3	11	-N				35	.5		
CULG	14	2302	2308	2314	N31	E32	.740	15942	17.4	12	-F		C	2308	50	.8	T	
HOLL	14	2307	2307	2312	N29	E30	.709	15942	17.2	5	-B	3	C		20			
737 CULG	14	2329E	2331	2339	N05	E04	.198	15937	15.3	10D	-N		P	2331	30	.3	T	Y5
GRP73738	14	2340	2343	0014	N05	E20	.385	15937	16.5	34	1B				270	2.9	FZ	
HOLL	14	2340	2343	0017	N06	E18	.366	15937	16.3	37	1B	3	C		265		Z F	
PALE	14	2348E	2348U	0011	N04	E22	.407	15937	16.6	23D	-B	3	C		284		F	
739 CULG	15	0025E	0025E	0045	N18	E20	.512	15943	16.5	20D	-F		P	0025	30	.3		Y5
740 CULG	15	0113	0123	0134	S24	W37	.643	15930	12.3	21	-F		C	0123	20	.3		Y5
741 CULG	15	0150	0155	0218	N05	E03	.192	15937	15.3	28	-N		C	0155	50	.5	T	Y5
742 CULG	15	0204	0208	0214	S26	E25	.521	15949	17.0	10	-F		C	0208	20	.2		Y5
GRP73743	15	0220>9	0232+1	0240	N30	E27	.695	15942	17.1	20	-N				80	1.1	D	
CULG	15	0220	0232	0244	N29	E28	.693	15942	17.2	24	-N	*	C	0232	70	1.0	T	
PEKG	15	0230	0233	0236	N31	E27	.705	15942	17.1	6	-B	*	C	0233	101		D	
744 CULG	15	0221	0229	0301	N19	E12	.459	15943	16.0	40	-F		C	0229	20	.2		Y5
	15	0252	0258	NO FLARE PATROL														
745 CULG	15	0308	0311	0317	N05	E04	.197	15937	15.4	9	-F		C	0311	10	.1	T	Y5
	15	0333	0335	NO FLARE PATROL														
	15	0339	0340	NO FLARE PATROL														
	15	0344	0404	NO FLARE PATROL														
	15	0433	0441	NO FLARE PATROL														
	15	0444	0446	NO FLARE PATROL														
	15	0451	0514	NO FLARE PATROL														
	15	0518	0600	NO FLARE PATROL														
GRP73746	15	0730+9	0739	0753	N10	E17	.391	15948	16.6	23	1B						E	
ISTA	15	0730		0750	N10	E18	.403	15948	16.7	20	1B						EF	
BUCA	15	0739	0739	0753	N10	E17	.391	15948	16.6	14	-N		C	0739	161	1.8	C	
PEKG	15	0740E	0740	0754	N12	E17	.414	15948	16.6	14D	1B		C	0740	189		E	
747 KHAR	15	0935E		0950D	N30	E27	.695	15942	17.4	15D	-F		P	0949	100	1.5	DT	Y5
748 KHAR	15	0955E	0956	1000D	N04	W02	.171	15937	15.3	5D	-F		V	0956			D	Y5
749 KHAR	15	1035E		1010D	S18	E32	.553	15950	17.8	5D	-F		V	1005			D	Y5
GRP73750	15	1026+4	1036+2	1053	N05	W03	.192	15937	15.2	27	1N							
KANZ	15	1026	1036	1050	N05	W03	.192	15937	15.2	24	1N	3						
BERN	15	1030	1037	1056	N04	E00	.167	15937	15.4	26	1N		P					
KHAR	15	1034E	1038	1045D	N05	W03	.192	15937	15.2	11D	1B		P	1035	210	2.2		
751 RAMY	15	1317	1318	1326	N04	W04	.181	15937	15.3	9	-B	3	C		41		F	Y5
GRP73752	15	1521+0	1522+1	1536	N28	E21	.633	15942	17.2	15	-B				50	.6	F	
HOLL	15	1521	1523	1536	N27	E17	.595	15942	16.9	15	-B	3	C		50		F	
ZURI	15	1521	1523	1525D	N29	E21	.644	15942	17.2	4D	1N		P	1523	200	2.7		
RAMY	15	1521	1522	1532D	N28	E22	.640	15942	17.3	11D	-B	3	C		45		F	
753 HOLL	15	1736	1737	1742	N27	E16	.589	15942	16.9	6	-B	3	C		28			Y5
GRP73754	15	1815+1	1817+0	1822	N05	E21	.399	15948	17.3	7	-F				20	.2	FG	
BIGB	15	1815	1817	1822	N05	E21	.399	15948	17.3	7	-F	2	C	1817	10	.1	G	
RAMY	15	1816	1817	1821	N05	E22	.413	15948	17.4	5	-F	3	C		26			
HOLL	15	1816	1817	1824	N05	E21	.399	15948	17.3	8	-N	3	C		28		F	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP73755	15	1924+2	1925+2	1941	N11	E18	.332	15948	16.6	17	-N				50	.5		
BIGB	15	1924	1927	1941	N13	E10	.318	15948	16.6	17	-F	2	C	1927	60	.6		
HOLL	15	1925	1925	1939	N12	E10	.346	15948	16.6	14	-B	3	C		24			
RAMY	15	1926	1926	1942	N11	E10	.332	15948	16.6	16	-N	3	C		54			
756 BIGB	15	2004	2023	2035	N23	W41	.757	15933	12.8	31	-F	3	C	2023	20	.3	D	Y5
GRP73757	15	2007+5	2009+5	2025	N04	W06	.197	15937	15.4	18	1B				410	4.2	HU	
HOLL	15	2007	2009	2025	N03	W05	.173	15937	15.5	18	1B	3	C		452		UDE	
RAMY	15	2008	2009	2024	N05	W08	.230	15937	15.2	16	2B	3	C		530		H	
PALE	15	2010	2013	2021D	N05	W05	.204	15937	15.5	11D	1B	3	C		371		F	
BIGB	15	2012	2014	2025	N04	W08	.217	15937	15.2	13	1N	3	C	2014	280	2.1		
758 BIGB	15	2023	2025	2029	N06	E20	.392	15948	17.3	6	-F	3	C	2025	10	.1	G	Y5
GRP73759	15	2036+1	2040+2	2048	N35	W33	.779	15953	13.4	12	-F				20	.3		
RAMY	15	2036	2042	2045	N36	W32	.781	15953	13.5	9	-F	3	C		23			
BIGB	15	2037	2040	2050	N34	W34	.777	15953	13.3	13	-F	3	C	2040	20	.2		
760 RAMY	15	2118	2122	2129	N34	W35	.784	15953	13.3	11	-F	3	C		23			Y5
761 BIGB	15	2120	2130	2210	N08	W16	.358	15936	14.7	50	-F	*	C	2130	30	.3	D	Y5
GRP73762	15	2127	2137 2156+2	22130	N18	W08	.421	0	15.3	46	-F						I	
BIGB	15	2127	2137	2159	N18	W03	.404	0	15.7	32	-F	3	C	2137	30	.3	D	
CULG	15	2136E	2156	2304	N18	W10	.432	0	15.2	88D	1F	*	C	2156	280	3.1	I	
BIGB	15	2140	2158	2213	N19	W09	.441	0	15.2	33	-F	*	C	2158	60	.6		
763 CULG	15	2136E	2137	2241	S15	E25	.443	15950	17.8	65D	-F		C	2137	40	.5		Y5
764 CULG	15	2201	2218	2253	N08	E22	.436	15948	17.6	52	-N		C	2218	50	.6	F	Y5
GRP73765	15	2237+5	2244+3	2322	N10	E08	.301	15948	16.5	45	1N				240	2.5	LUY	
CULG	15	2237	2246	0010	N10	E07	.294	15948	16.5	93	1N		C	2246	250	2.8	UYL	
BIGB	15	2241	2247	2322	N10	E07	.294	15948	16.5	41	1N	3	C	2247	230	2.4		
HOLL	15	2242	2246	2322	N11	E10	.332	15948	16.7	40	1B	3	C		291		F	
PALE	15	2242E	2244J	2248D	N07	E09	.267	15948	16.6	6D	1N	3	C		211		FDE	
766 CULG	15	2245	2246	2255	N29	E18	.625	15942	17.3	10	-F		C	2246	60	.8		Y5
767 CULG	15	2327	2327	2335	N04	W10	.240	15937	15.2	8	-F		C	2327	20	.2		Y5
768 CULG	16	0036	0037	0049	N04	W07	.205	15937	15.5	13	-F		C	0037	20	.2	T	Y5
769 CULG	16	0114	0130	0150	N16	E22	.510	15952	17.7	36	-N		C	0130	60	.7		Y5
770 CULG	16	0150	0153	0212	N05	W10	.251	15937	15.3	22	-N		C	0153	50	.5	T	Y5
771 CULG	16	0200	0201	0212	N35	W36	.797	15953	13.4	12	-N		C	0201	20	.4	T	Y5
772 CULG	16	0223	0224	0234	N04	W08	.216	15937	15.5	11	-B		C	0224	20	.2	T	Y5
773 CULG	16	0309	0319	0335	N35	W36	.797	15953	13.4	26	-N		C	0319	20	.4	T	Y5
774 CULG	16	0323	0328	0332	S24	W88	.997	0	9.5	9	-F		C	0328	10			Y5
775 CULG	16	0330	0335	0343	N04	W08	.216	15937	15.5	13	-N		C	0335	20	.2	T	Y5
776 CULG	16	0348	0350	0359D	S15	E19	.357	15950	17.6	11D	-F		P	0350	20	.2		Y5
777 CULG	16	0357	0358	0359D	N04	W08	.216	15937	15.6	2D	-N		P	0358	50	.5	T	Y5
778 CULG	16	0440E	0446	0455D	N04	W09	.227	15937	15.5	15D	-N		P	0446	30	.3	T	Y5
GRP73779	16	0531E	0534 0600	0615	N18	E15	.467	15952	17.4	44	1F						HI	
CULG	16	0531E	0534	0615	N17	E16	.462	15952	17.4	44D	1F		C	0534	200	2.3	HI	
CULG	16	0548	0600	0613	N19	E14	.472	15952	17.3	25	-B		C	0600	60	.7	I	
780 CULG	16	0535	0540	0521	N30	E16	.626	15942	17.4	46	-F		C	0540	40	.5		Y5
781 CULG	16	0618	0620	0633	N04	W09	.227	15937	15.6	12	-F		C	0619	20	.2	T	Y5
782 CULG	16	0657	0658	0712	N04	W09	.227	15937	15.6	15	-N		C	0658	30	.3	T	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP73783	16	0746	0749+0	0813D	N17	E14	.446	15952	17.4	27	-N						EG	
BERN	16	0746	0749	0847	N18	E12	.444	15952	17.2	61	1N		P					
KAND	16	0747E	0749	0813	N17	E16	.462	15952	17.5	26D	-N		C		135	1.6	EG	
	16	1000	1035	NO FLARE PATROL														
	16	1050	1055	NO FLARE PATROL														
	16	1237	0243	NO FLARE PATROL														
	16	0359	0440	NO FLARE PATROL														
	16	0455	0531	NO FLARE PATROL														
784 ABST	16	1055E	1055	1059D	N34	W41	.823	15953	13.4	4D	-F		P	1055	87	1.6	D	Y5
GRP73785	16	1134+1	1135+3 1203+0	1208	N04	W14	.291	15937	15.4	34	-N				160	1.7	EH	
BERN	16	1134	1135	1205	N03	W15	.297	15937	15.4	31	-N		P					
KANZ	16	1134	1138	1155D	N34	W15	.305	15937	15.4	21D	-B	3						
RAMY	16	1135	1136	1144	N05	W14	.301	15937	15.4	9	-B	3	C		98			
KHAR	16	1137E		1149D	N04	W14	.291	15937	15.4	12D	-N		P	1139	100	1.1		
KAND	16	1143E	1200	1210	N06	W14	.311	15937	15.4	27D	1N		P		208	2.3		
RAMY	16	1155	1200	1208	N05	W14	.301	15937	15.4	13	-B	3	C		121		DE H	
786 RAMY	16	1436	1437	1442	N30	E09	.596	15942	17.3	6	-B	3	C		28			Y5
787 BIGB	16	1557	1608	1618	S32	E06	.455	0	17.1	21	-F	3	C	1608	10	.1	D	Y5
GRP73788	16	1649+1	1650+2	1703	N04	W17	.333	15937	15.4	14	-B				150	1.6	FU	
HOLL	16	1649	1650	1703	N03	W16	.311	15937	15.5	14	1B	3	C		202		U F	
RAMY	16	1650	1651	1703	N05	W18	.356	15937	15.4	13	1B	3	C		212			
BIGB	16	1650	1651	1701	N04	W27	.479	15937	14.7	11	-N	3	C	1651	110	1.3		
PALE	16	1651E	1652U	1653D	N04	W17	.333	15937	15.4	2D	-B	3	C		39		U F	
GRP73789	16	2031	2036+3	2105	N11	W28	.437	15937	15.4	34	-N						FU	
BIGB	16	2031	2039	2105	N18	W22	.530	15937	15.2	34	-N	2	C	2039	100	1.1		
PALE	16	2036E	2036U	2046D	N04	W19	.362	15937	15.4	10D	-N	3	C		25		U F	
790 PALE	16	2146	2146	2153	N04	W20	.377	15937	15.4	7	-N	3	C		44		U F	Y5
791 BIGB	16	2146	2149	2157	N20	W04	.436	15943	16.6	11	-N	2	C	2149	50	.5		Y5
792 CULG	16	2307	2318	2357D	S23	W64	.898	15930	12.2	50D	-F		P	2318	30	.7		Y5
793 CULG	16	2318E	2320	2357	S25	W09	.363	15949	16.3	39D	-F		P	2319	40	.5		Y5
GRP73794	16	2337	2346+2	2357D	N05	W21	.398	15937	15.4	20	-B				50	.5		
CULG	16	2337	2348	2357D	N05	W22	.413	15937	15.3	20D	-B		P	2348	30	.3	T	
PALE	16	2346E	2346U	2356D	N05	W20	.384	15937	15.5	10D	-B	3	C		65		DE	
795 BIGB	16	2345	2346	2356	N20	W04	.436	15943	16.7	11	-N	2	C	2346	40	.4		Y5
GRP73796	17	0840E		0915D	N30	E02	.581	15942	17.5	35	-F						EH	
ISTA	17	0840E		0915D	N30	E01	.580	15942	17.4	35D	-N						E	
KHAR	17	0855E		0912D	N30	E03	.582	15942	17.6	17D	-F		P	0856	80	1.0	EHT	
797 KHAR	17	1004E	1009	1025D	N21	W08	.463	15943	16.8	21D	-N		P	1006	110	1.2	H	Y5
	17	1110	1115	NO FLARE PATROL														
798 KHAR	17	1115E		1204D	N29	W04	.569	15942	17.2	49D	1F		P	1118	260	2.8	ET	Y5
	17	1130	1134	NO FLARE PATROL														
799 KHAR	17	1134E		1140D	N37	W55	.917	15953	13.4	6D	-F		P	1134	70	1.6	D	Y5
	17	1212	1257	NO FLARE PATROL														
	17	1301	1339	NO FLARE PATROL														
	17	1413	1420	NO FLARE PATROL														
	17	0431	0436	NO FLARE PATROL														
	17	0445	0457	NO FLARE PATROL														
	17	0614	0623	NO FLARE PATROL														
	17	0631	0635	NO FLARE PATROL														
	17	0657	0705	NO FLARE PATROL														
	17	0710	0719	NO FLARE PATROL														
	17	0720	0753	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
GRP73800	17	1439+1	1440+2	1453	N06	W14	.310	15948	16.6	14	-N				35	.4	K	
MCMA	17	1439	1440	1517	N06	W14	.310	15948	16.6	38	-N		C	1440	50	.5	EK	
HOLL	17	1439	1441	1453	N09	W13	.333	15948	16.6	14	-N	4	C		23		F	
HUAN	17	1440	1442	1446	N06	W14	.310	15948	16.6	6	-F	1	C					
GRP73801	17	1440+3	1443+3	1508	N28	W07	.561	15942	17.1	28	-F				40	.5	E	
MCMA	17	1443	1443	1505	N28	W05	.557	15942	17.2	25	-F		C	1443	40	.5	E	
HOLL	17	1443	1446	1513	N28	W09	.568	15942	16.9	27	-N	4	C		41			
GRP73802	17	1458+1	1459+3	1507	N09	W15	.355	15948	16.5	9	-N				30	.3	E	
HUAN	17	1458	1502	1507	N08	W15	.344	15948	16.5	9	-F	*	C	1502	30	.3	E	
HOLL	17	1459	1459	1505	N09	W13	.333	15948	16.6	6	-N	*	C		21			
RAMY	17	1459	1502	1514	N09	W15	.355	15948	16.5	15	-N	*	C		31			
803 MCMA	17	1520E	1529	1537D	N28	W08	.564	15942	17.0	17D	-F		C	1529	60	.8	E	Y5
804 MCMA	17	1529E		1537D	N06	W15	.323	15948	16.5	8D	-F		C	1535	40	.4	E	Y5
GRP73805	17	1637+0	1638+3	1641	N05	W34	.581	15937	15.1	4	-N				45	.6		
MCMA	17	1637	1638	1643	N06	W34	.585	15937	15.1	3	-N		C	1638	40	.5	D	
HOLL	17	1637	1638	1641	N05	W34	.581	15937	15.1	4	-N	4	C		53		F	
806 HOLL	17	1722	1722	1725	N09	W14	.344	15948	16.7	3	-N	3	C		39		F	Y5
807 HOLL	17	1817	1818	1819	N09	W15	.355	15948	16.6	2	-B	3	C		31		F	Y5
808 BIGB	17	1835	1837	1852	N26	W10	.544	15942	17.0	17	-F	2	C	1837	60	.6		Y5
809 BIGB	17	1918	1919	1929	N08	W17	.369	15948	16.5	11	-F	2	C	1919	50	.5		Y5
GRP73810	17	1944+1	1945+0	1950	N07	W15	.334	15948	16.7	6	-F				28	.2	D	
HUAN	17	1944	1945	1947	N08	W18	.382	15948	16.5	3	-F	1	C	1945	20	.2	D	
RAMY	17	1945	1945	1953D	N06	W13	.298	15948	16.8	8D	-N	3	C		20			
GRP73811	17	2026>9	2103 2110+1	2151	N28	W12	.580	15942	17.0	85	1N				180	2.2	E	
MCMA	17	2026E		2037D	N28	W18	.571	15942	17.1	11D	-N		C	2037	80	1.0	E	
BIGB	17	2030	2111	2148	N28	W10	.571	15942	17.1	78	-F	2	C	2111	170	1.8		
HOLL	17	2036	2110J	0000	N28	W12	.580	15942	17.0	204	1B	3	C		213		DE	
HOLL	17	2036	2103	2106D	N28	W12	.580	15942	17.0	30D	-B	3	C		183		DE	
PALE	17	2051E	2109J	2109D	N29	W14	.602	15942	16.8	18D	-B	2	C		147		DE	
VORO	17	2126E		2151	N28	W14	.589	15942	16.8	25D	-N		P	2133	45	.5	E	
812 CULG	17	2358	2414	0041D	N14	W78	.952	15934	12.7	43D	-F		C	2414	40			Y5
813 CULG	18	0008	0012	0054	N07	W08	.254	15948	17.4	54	-F		P	0012	60	.6	F	Y5
814 CULG	18	0032	0035	0053	N25	W69	.959	15933	12.8	21	-F	*	C	0035	10			Y5
GRP73815	18	0032+3	0035+1	0054	S20	W20	.412	15949	16.5	22	-N				100	1.1	J	
CULG	18	0032	0035	0103	S19	W20	.403	15949	16.5	31	-N		C	0035	100	1.1		
VORO	18	0034	0036	0044	S20	W20	.412	15949	16.5	10	1N		C	0036	188	2.1	EJ	
PALE	18	0035E	0036J	0036D	S24	W17	.419	15949	16.7	1D	-B	2	C		112		DE	
PEKG	18	0035	0036	0038D	S20	W21	.424	15949	16.4	3D	-F		P	0036	21		D	
816 CULG	18	0126	0319J	0538D	N20	W32	.648	0	15.7	252D	7F		P	0319	150	2.0	U	Y5
	IMP.1 NO 1 MITK PEKG																	
817 CULG	18	0128	0236J	0408	S25	W21	.471	15949	16.5	160	7F		C	0236	180	2.0	K	Y5
	IMP.1 NO 1 MITK PEKG																	
818 VORO	18	0141	0143	0147	S15	W15	.302	15950	16.9	6	-N		C	0143	90	.9	DH	Y5
819 ABST	18	0626E	0628	0629D	S23	W14	.378	15949	17.2	3D	-F		P	0628	87	.9	D	Y5
	18	1100	1212	NO FLARE PATROL														
	18	0857	0908	NO FLARE PATROL														
GRP73820	18	1542+4	1546 1557+2	1626	N07	W57	.850	15936	14.4	44	-F						DG	
MCMA	18	1542	1546	1605	N08	W58	.861	15936	14.3	23	-F		C	1546	20	.4	D	
KANZ	18	1543	1557	1629	N07	W57	.850	15936	14.4	46	-F	1						
BIGB	18	1546	1559	1626	N07	W57	.850	15936	14.4	40	-F	2	C	1559	30	.6	G	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR AREA Sq. Deg.	
GRP73821	18	1845+1	1846+1	1902	N10	W48	.769	15937	15.2	17	-N						D
MCMA	18	1845	1846	1908	N10	W47	.758	15937	15.3	23	-N		C	1846	60	1.0	D
HOLL	18	1846	1847	1902	N10	W48	.769	15937	15.2	16	-B	3	C		129		DE
HUAN	18	1846		1858	N12	W48	.775	15937	15.2	12	-N	1	P	1847	30	.4	
GRP73822	18	2036	2103	0000	N28	W13	.583	15942	17.9	204	-B				160	2.0	
HOLL	18	2036	2103U	0000	N28	W12	.578	15942	18.0	204	-B	3	C		183		DE
PALE	18	2051E	2109U	2109D	N29	W14	.601	15942	17.8	18D	-B	2	C		147		DE
823 BIGB	18	2157	2206	2218	S08	E90	1.000	15959	25.7	21	-F	2	C	2206	18		YS
GRP73824	18	2218	2221+0	2231	N03	W47	.740	15937	15.4	13	-N						
HOLL	18	2218	2221	2230	N03	W46	.728	15937	15.5	12	-N	3	C		29		
PALE	18	2219E	2221U	2231D	N04	W48	.753	15937	15.3	12D	-N	3	C				
825 HOLL	19	0823	0826	0842	N03	W47	.739	15937	15.5	19	-B	3	C		42		YS
826 ABST	19	0529E	0536	0546D	S07	E86	.997	15937	25.7	17D	1F		P	0546	70		D YS
827 ABST	19	0529E	0533	0548D	N05	W46	.732	15943	15.8	19D	-F		P	0533	61	.9	DJ YS
828 ABST	19	0529E	0536	0607D	N18	W43	.748	15959	16.8	38D	?F	*	P	0536	87	1.3	DJ YS
	IMP.1 NO * MANI PEKG																
829 ABST	19	0629E	0642	0649D	S23	W35	.817	15949	16.6	20D	-F		P	0642	87	1.1	D YS
830 CATA	19	0730	0736	0740	N36	E80	.987	0	25.3	10	-N	2	C	0730	45		YS
831 ABST	19	0822E	0831	0832D	S07	E86	.997	15959	25.8	10D	?F		P	0831	79		D YS
	IMP.1 NO * CATA																
832 MANI	19	0823E	0823U	0835	N05	W47	.744	15937	15.8	12D	-N	3	C		20		YS
GRP73833	19	0850+5	0900	0940	N04	W48	.753	15937	15.8	50	1N				140	2.1	Z
TELV	19	0850	0858	0858D	N05	W48	.755	15937	15.8	8D	-N	2			120	1.8	
CATA	19	0855	0900	0940	N04	W48	.753	15937	15.8	45	1N	1	C	0900	168	2.6	Z
	19	1035	1238	NO FLARE PATROL													
	19	0107	0108	NO FLARE PATROL													
	19	0113	0119	NO FLARE PATROL													
	19	0137	0144	NO FLARE PATROL													
	19	0216	0238	NO FLARE PATROL													
	19	0427	0431	NO FLARE PATROL													
834 MCMA	19	1240		1328D	N07	W56	.781	15937	15.8	48D	-F		C	1300	50	.8	E YS
GRP73835	19	1702+1	1704+3	1724	N04	W53	.806	15937	15.7	22	-F				30	.5	D
MCMA	19	1702	1704	1730	N05	W52	.798	15937	15.8	28	-F		C	1704	30	.5	D
BIGB	19	1703	1707	1718	N03	W54	.815	15937	15.7	15	-F	2	C	1707	30	.5	
836 CULG	19	2234E	2234E	2241	S16	W44	.700	15950	16.6	7D	-F		C	2234	20	.3	YS
837 CULG	19	2300	2308	2320	N11	E74	.968	15962	25.5	20	-F		C	2308	20		YS
838 CULG	19	2329	2331	2333	S11	W57	.835	15938	15.7	4	-F		C	2331	10	.2	YS
839 CULG	19	2336	2350	0012	N29	W33	.728	15942	17.5	36	-F		C	2350	50	.7	YS
GRP73840	19	2352+5	0009+5	0055	N08	W45	.729	15948	16.6	63	1N				160	2.3	FU
CULG	19	2352	2411	0136	N08	W45	.729	15948	16.6	104	1N		C	2411	190	2.8	UF
PALE	19	2356	2409	0021	N09	W45	.732	15948	16.6	25	-B	3	C		100		F
HOLL	19	2356	2409	0101D	N09	W45	.732	15948	16.6	65D	1B	3	C		220		F
BIGB	19	2357	2414	0048	N08	W46	.735	15948	16.5	51	-N	2	C	2414	130	1.9	
841 VORO	20	0149	0151	0159	N16	W56	.860	15943	15.9	10	-N		C	0151	81	1.5	DH YS
842 CULG	20	0300	0312	0354	N18	W71	.960	15936	14.8	54	-F		C	0312	80		YS
843 CULG	20	0435	0438	0446	N29	W44	.813	15942	16.9	11	-N		C	0438	10	.2	YS
844 CULG	20	0446	0449	0453	N35	W38	.807	15942	17.3	7	-F		C	0449	20	.4	YS
845 CULG	20	0455	0502	0512	N29	W43	.805	15942	17.0	17	-N		C	0502	20	.3	YS
846 CULG	20	0524	0527	0532	S27	E64	.903	15958	25.0	8	-F		C	0527	30	.7	G YS
847 CULG	20	0526	0527	0551	N29	W44	.813	15942	16.9	25	-F		C	0527	30	.4	K YS

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
848 CULG	20	0541	0549	0559	N02	E38	.624	15955	23.1	18	-F		C	0549	30	.4		Y5
849 CULG	20	0600	0604	0617	S10	E70	.936	15959	25.5	17	-F		C	0603	20		T	Y5
850 CULG	20	0601	0609	0627	N28	W45	.815	15942	16.9	26	-N		C	0609	70	1.2	KF	Y5
851 CULG	20	0610	0613	0624	N06	W60	.874	15937	15.8	14	-F		C	0613	30	.4		Y5
852 CULG	20	0618	0619	0630	N17	W56	.863	15943	16.1	12	-F		C	0619	10	.2		Y5
853 CULG	20	0632	0635	0644	N29	W44	.813	15942	17.0	12	-F		C	0635	10	.2		Y5
GRP73854	20	1142	1152+2	1226	N28	W44	.807	15942	17.2	44	?N						F	
ZURI	20	1142	1154	1230D	N28	W45	.815	15942	17.1	480	?N		P	1154	860	15.8		
	IMP.3 IMP.5																	
KANZ	20	1144E	1152	1222	N28	W44	.807	15942	17.2	38D	-F	2					F	
855 HOLL	20	1430	1434	1438	N06	W44	.711	15948	17.3	8	-N	3	C		20			Y5
856 HOLL	20	1505	1515	1530	N06	W45	.723	15948	17.3	25	-N	3	C		25			Y5
857 MCMA	20	1704	1716	1800D	N28	W50	.853	15942	17.0	56D	-F		C	1716	50	1.0	E	Y5
GRP73858	20	1832	1850+0 1934	1943	N28	W49	.845	15942	17.1	71	-N				60	1.1	E	
BIGB	20	1832	1850	1914	N29	W46	.828	15942	17.3	42	-N	2	C	1850	70	1.0		
MCMA	20	1845E	1850	1950D	N28	W50	.853	15942	17.0	65D	-F		C	1850	60	1.2	E	
BIGB	20	1903	1934	1935	N26	W51	.852	15942	17.0	32	1N	2	C	1934	130	2.1		
GRP73859	20	2210+2	2212+1	2217	N27	W52	.863	15942	17.0	7	-N				30	.6	DHJ	
CULG	20	2210	2212	2215D	N28	W53	.874	15942	16.9	50	-N		C	2212	20	.3		
VORO	20	2212	2213	2217	N27	W52	.863	15942	17.0	5	-B		C	2213	36	.7	DHJ	
860 VORO	20	2244	2245	2252	N27	W52	.863	15942	17.0	8	-N		C	2245	27	.5	DHJ	Y5
861 CULG	20	2249	2306	2340	N06	W50	.779	15948	17.2	51	-F		C	2306	70	1.2		Y5
GRP73862	20	2354+8	0006+3	0029	N29	W50	.857	15942	17.2	35	-B				50	.9	J	
VORO	21	0002	0006	0029	N29	W50	.856	15942	17.3	27	-N		C	0006	54	1.0	EJ	
CULG	20	2354	2408	0028	N30	W50	.861	15942	17.2	34	-B		C	2408	30	.4		
HOLL	20	2356	2409	0010D	N29	W45	.820	15942	17.6	14D	1B	3	V		220		F	
863 CULG	21	0229	0235	0244	N28	W55	.887	15942	17.0	15	-N		C	0235	40	.9		Y5
GRP73864	21	0252>9	0311	0338	N31	W49	.858	15942	17.4	46	1N				160	3.0	DHJ	
CULG	21	0252	0311	0338	N32	W48	.856	15942	17.5	46	1B		C	0311	120	2.4	J	
VORO	21	0310		0325D	N30	W50	.860	15942	17.4	15D	1N		P	0313	197	3.9	DHJ	
865 CULG	21	0456	0504	0514	N30	W57	.985	15942	16.9	18	-F		C	0504	40	.9		Y5
866 CULG	21	0512	0515	0522	N17	W69	.949	15943	16.0	10	-N		C	0515	30			Y5
867 HONT	21	1120	1123	1133	N22	E60	.904	15963	26.0	13	-N		C	1123	110			Y5
	21	1220	1246	NO FLARE PATROL														
	21	0607	0640	NO FLARE PATROL														
	21	0830	0850	NO FLARE PATROL														
868 RANY	21	1429	1429	1437	S15	W63	.888	15950	16.9	8	-N	3	C		16			Y5
GRP73869	21	1929+3	1933+0	1937	S14	W69	.930	15950	16.6	8	-N				20		D	
BIGB	21	1929	1933	1939	S13	W72	.947	15950	16.4	10	-F	2	C	1933	10		D	
HOLL	21	1932	1933	1934	S15	W66	.910	15950	16.9	2	-B	3	C		25			
870 CULG	21	2121E	2121E	2132	N30	W63	.938	15942	17.2	11D	-F		P	2121	30			Y5
871 CULG	21	2208	2212	2221	S13	W69	.930	15950	16.7	13	-F		C	2212	20			Y5
872 CULG	21	2304	2321	2347	N18	E56	.865	15963	26.2	43	-F		C	2321	60	1.2		Y5
873 CULG	21	2335	2400	0017	S28	E90	.999	15972	28.7	42	-F		C	2400	20			Y5
874 CULG	21	2352	2357	0003	N33	W65	.953	15942	17.1	11	-F		C	2357	60			Y5
875 CULG	22	0046	0053	0103	N20	E52	.838	15963	25.9	17	-F		C	0053	50	1.0	T	Y5
876 CULG	22	0113	0120	0133	S14	E35	.596	15958	24.7	20	-F		C	0120	10	.1		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
877 CULG	22	0152	0158	0209	N30	W68	.960	15942	17.0	17	-F		C	0158	40		T	Y5
878 CULG	22	0207	0212	0223	N20	W81	.993	15943	16.0	16	-N		C	0212	30			Y5
879 CULG	22	0251	0305	0320	N30	W69	.964	15942	16.9	29	-F		C	0305	60		T	Y5
880 CULG	22	0356	0403	0426	S07	W79	.980	0	16.2	30	-F		C	0403	40			Y5
881 CATA	22	0700	0705	0715	N18	E90	1.000	15967	29.0	15	-F	2	C	0705	28			Y5
882 CATA	22	0905	0905	0910	N19	W90	1.000	15943	15.6	5	1N	2	C	0905	56			Y5
	22	1056	1405	NO FLARE PATROL														
	22	1428	1434	NO FLARE PATROL														
	22	0432	0437	NO FLARE PATROL														
	22	0921	0938	NO FLARE PATROL														
	22	0955	1037	NO FLARE PATROL														
883 HOLL	22	1713	1713	1717	N27	W77	.987	15942	16.9	4	-N	3	C				F	Y5
884 HOLL	22	1738	1740	1746	N27	W77	.987	15942	17.0	8	-B	3	C				F	Y5
885 HOLL	22	1952	1956	2016	S15	W78	.975	15950	17.0	24	-B	3	C		25			Y5
886 CULG	23	0050E	0050E	0435D	S20	E10	.308	15956	23.8	225D	?F		P	0050	330	3.5	SUI	Y5
	IMP.1 NO : MANI MITK																	
887 CULG	23	0157E	0243U	0435D	S35	E07	.511	0	23.6	158D	?F		P	0243	350	4.3	SUI	Y5
	IMP.1 NO : MITK																	
888 CATA	23	0815	0815	0820	S23	E80	.981	15968	29.3	5	?N	2	C	0815	56			Y5
	IMP.1 NO : ABST																	
	23	1040	1046	NO FLARE PATROL														
	23	1057	1240	NO FLARE PATROL														
	23	1250	1345	NO FLARE PATROL														
	23	0206	0209	NO FLARE PATROL														
	23	0734	0735	NO FLARE PATROL														
	23	0900	0901	NO FLARE PATROL														
	23	0920	0924	NO FLARE PATROL														
	23	0926	0933	NO FLARE PATROL														
889 HOLL	23	1356	1400	1418	S23	E76	.967	15968	29.3	22	-B	3	C		93		F	Y5
GRP73890	23	1446+5	1503	1511D	S22	E21	.447	15958	25.2	25	-N						EG	
MCMA	23	1446	1515	1620	S23	E20	.445	15958	25.1	94	-N		C	1515	80	.9	E	
BIGB	23	1451	1503	1511	S22	E22	.458	15958	25.3	20	-N	2	C	1503	140	1.6	G	
891 BIGB	23	1656	1706	1733	S27	E90	.999	15968	30.5	37	-N	2	P	1706	10			Y5
892 BIGB	23	1834	1839	1851	N20	E52	.837	15967	27.7	17	-F	2	C	1839	20	.3	G	Y5
GRP73893	23	2045	2046 2053	2059	N19	E61	.903	15967	28.4	14	-N						E	
BIGB	23	2045	2046	2053	N21	E60	.901	15967	28.4	8	-N	2	C	2046	30	.6	E	
BIGB	23	2049	2053	2059	N17	E63	.913	15967	28.6	10	-N	*	C	2053	10	.2	D	
894 HOLL	23	2049	2050	2103	N26	E30	.675	15963	26.1	14	-N	3	C		28			Y5
895 CULG	23	2317	2323	2350	S24	E75	.963	15968	29.6	33	-F		P	2323	40			Y5
896 CULG	23	2341	2347	0006	S29	W47	.772	15951	28.5	25	-F		P	2347	40	.6		Y5
897 CULG	24	0004	0019	0048	N21	E27	.602	15963	26.0	44	-N		C	0019	70	.9		Y5
898 CULG	24	0046	0054U	0129	N15	W77	.981	15966	18.3	43	-F		C	0054	20			Y5
899 CULG	24	0121	0131	0202	S23	E69	.932	15968	29.2	41	?N		C	0131	160		F	Y5
	IMP.1 NO : MITK PEKG																	
	24	0309	0348	NO FLARE PATROL														
900 PEKG	24	0450	0454	0457	N21	E55	.864	15967	28.3	7	-N		P	0454	42		D	Y5
901 PEKG	24	0530	0535	0541	N15	E63	.910	15967	29.0	11	-N		P	0535	34		D	Y5
902 KANO	24	0721	0735	0830	N11	E65	.918	15967	29.2	69	-F		P					Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
903 KANO	24	0823		0843	N20	E55	.861	15967	28.5	17	-F		P					Y5
GRP73904	24	0900E		0918D	S27	E71	.945	15968	29.7	18	-F							
KHAR	24	0930E		0948D	S28	E76	.968	15968	30.1	18D	-F		P	0903	80			
KHAR	24	0900E		0918D	S27	E67	.923	15968	29.4	18D	-F		P	0903	70		D	
905 KHAR	24	0900E		0918D	N08	E63	.900	0	29.1	18D	-F	*	P	0903	80		D	Y5
906 KHAR	24	0930E	0948	0940D	N18	E53	.839	15967	28.4	40D	-F	*	P	0908	106	2.0	D	Y5
GRP73907	24	0942E	0942	0959D	S27	E73	.955	15968	29.9	17	-F							
KHAR	24	0942E	0942	0959D	S28	E76	.968	15968	30.1	17D	-F		P	0950	80		D	
KHAR	24	0947E		0958D	S26	E70	.939	15968	29.7	11D	-F		P	0950	60		D	
908 KHAR	24	1055E		1107D	N21	E23	.564	15963	26.2	12D	-N		P	1055			D	Y5
	24	1113	1117	NO FLARE PATROL														
909 KHAR	24	1117E		1124D	N21	E23	.564	15963	26.2	7D	-F		V	1117			D	Y5
	24	1124	1222	NO FLARE PATROL														
918 KANO	24	1222	1238	1245	N21	E23	.564	15963	26.2	23	-N		P		104	1.2	F	Y5
	24	1312	1338	NO FLARE PATROL														
GRP73911	24	1356	1411	1427	N18	E55	.856	15967	28.7	31	-B						F	
HOLL	24	1356	1411	1427	N18	E55	.856	15967	28.7	31	-B	3	C		37		F	
HOLL	24	1356	1407	1407	N18	E55	.856	15967	28.7	11	-N	3	C		57		F	
912 HOLL	24	1521	1526	1538	N18	E54	.847	15967	28.7	9	-N	3	C		27		F	Y5
913 HOLL	24	1607	1607	1624	N18	E54	.847	15967	28.7	17	-B	3	C		18		F	Y5
914 BIGB	24	1633	1641	1647	N21	E90	1.000	15971	1.4	14	-N	2	P	1641	10			Y5
915 HOLL	24	1648	1651	1655	N21	E18	.520	15963	26.1	7	-N	3	C		59			Y5
GRP73916	24	1727+4	1733+4	1751	N19	E51	.825	15967	28.6	24	-N				35	.6		
BIGB	24	1727	1737	1752	N20	E49	.811	15967	28.4	25	-N	3	C	1737	40	.6		
HOLL	24	1731	1733	1750	N18	E53	.839	15967	28.7	19	-B	3	C		30			
917 BIGB	24	1801	1815	1903	S28	E65	.911	15968	29.6	62	-N	3	C	1815	40		E	Y5
918 VORO	24	2150	2152	2203	S20	W59	.859	0	28.5	13	-F		C	2152	63	1.4	DGL	Y5
919 CULG	24	2343	2351	0000	N24	W53	.858	0	21.0	17	-F		C	2351	30	.6	GF	Y5
920 CULG	24	2344	2349	2359	N13	E53	.825	15967	29.0	15	-F		C	2349	80	1.4		Y5
921 CULG	25	0003	0009	0037	S21	E61	.877	15968	29.6	34	-F		C	0009	20	.4	K	Y5
922 CULG	25	0352E	0352E	0419	S27	E66	.917	15968	30.1	27D	-N		P	0352	30			Y5
923 CULG	25	0409E	0409	0428	N20	E45	.774	15967	28.5	19D	-F		P	0409	30	.5		Y5
924 CULG	25	0439	0450	0451D	S26	E60	.875	15968	29.7	12D	-F		P	0450	20	.4		Y5
GRP73925	25	0504+1	0505+6	0524	N15	E48	.783	15967	28.8	20	1N				150	2.4	EJ	
ABST	25	0504E	0505	0525	N16	E50	.805	15967	29.0	21D	1N		P	0505	131	2.2	EJ	
ABST	25	0505	0511	0523	N13	E50	.796	15967	29.0	18	-F		C	0511	87	1.4	DJ	
ABST	25	0510	0511	0523	N14	E43	.727	15967	28.4	13	-N	*	C	0511	87	1.3	DJ	
926 ABST	25	0509	0512	0525	S26	E62	.889	15968	29.9	16	-F		C	0512	87		DJ	Y5
927 ABST	25	0512	0513	0523	N21	E90	1.000	15971	2.0	11	1N		C	0513	87		ADV	Y5
GRP73928	25	0650	0750	09000	N23	E88	1.000	15971	.9	130	1N						AH	
KAND	25	0650	0750	0900	N23	E85	.999	15971	1.7	130	1N		P					
ISTA	25	0655E		0710D	N25	E90	1.001	15971	2.0	15D	-N						A	
KHAR	25	0847E	0910	1000D	N20	E88	1.000	15971	2.0	73D	1N		P	0905			CH	
GRP73929	25	0651+2	0656+4	0730	N19	E41	.729	15967	28.4	39	-N						I	
KIEV	25	0651E	0656	0765D	N19	E40	.719	15967	28.3	14D	1F		C	0656	250	3.6	DI	
KAND	25	0653	0700	0730	N20	E42	.745	15967	28.4	37	-N		P		94	1.5	F	
930 KAND	25	0728	0728	0745	S22	E58	.854	15968	29.7	17	-F		P					Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP73931	25	0847E		0927D	N14	E46	.759	15967	28.8	40	-F						
KHAR	25	0847E		0927D	N12	E47	.762	15967	28.9	40D	-F		P	0910	80	1.3	D
KHAR	25	0853E		0927D	N16	E46	.766	15967	28.8	37D	-F		P	0910	60	1.0	D
GRP73932	25	0905E	0912	0926	S26	E56	.843	15968	29.6	21	-F				90	1.7	D
KHAR	25	0905E		0927D	S29	E62	.893	15968	30.0	22D	-F		P	0910	70		D
LOCA	25	0910E	0912	0925	S20	E54	.815	15968	29.4	15D	-N		V	0912	108	1.9	
KHAR	25	0913E		0923D	S26	E56	.843	15968	29.6	10D	-F		V	0917			D
933 KHAR	25	0938E		1000D	N16	E46	.766	15963	28.9	22D	-F		V				D Y5
934 KHAR	25	0938E		1000D	N22	E07	.464	15967	25.9	22D	-F	*	P				D Y5
GRP73935	25	1150+0	1152+3	1210D	N18	E44	.755	15967	28.8	20	-N				70	1.1	
KANO	25	1150	1155	1210D	N19	E47	.788	15967	29.0	20D	-N		P		52	.9	
RAMY	25	1150	1152	1202D	N17	E42	.730	15967	28.6	12D	-B	2	C		104		
	25	1210	1211	NO FLARE PATROL													
	25	1357	1428	NO FLARE PATROL													
	25	0111	0117	NO FLARE PATROL													
	25	0130	0200	NO FLARE PATROL													
936 HOLL	25	1529	1530	1537	S25	E60	.874	15968	30.1	8	-N	3	C		19		Y5
937 HOLL	25	1603	1608	1621	N27	E87	1.000	15971	2.2	18	-F	3	C				Y5
GRP73938	25	1650>9	1702+2	1710	S26	E57	.852	15968	30.0	20	-F				50	1.0	F
BIGB	25	1650	1702	1707	S27	E55	.837	15968	29.8	17	-F	3	C	1702	50	.9	
HOLL	25	1700	1704	1713	S25	E59	.866	15968	30.1	13	-N	3	C		48		F
GRP73939	25	1702+6	1711+1	1721	N18	E41	.724	15967	28.8	19	-N				40	.6	F
BIGB	25	1702	1712	1723	N17	E43	.740	15967	28.9	21	-F	2	C	1712	50	.7	
HOLL	25	1708	1712	1717	N18	E41	.724	15967	28.8	9	-B	3	C		35		F
RAMY	25	1710E	1711J	1721D	N18	E41	.724	15967	28.8	11D	-B	2	C		31		F
940 HOLL	25	1733	1734	1739	N18	E41	.724	15967	28.8	6	-B	3	C		19		DE Y5
GRP73941	25	1802+0	1811+1	1823	N17	E41	.719	15967	28.8	21	-N						
HOLL	25	1802	1811	1823	N18	E40	.714	15967	28.8	21	-B	3	C		140		FDE
BIGB	25	1802	1816	1816D	N19	E41	.729	15967	28.8	14D	-N	1	P	1816	90	1.2	
BIGB	25	1810	1812	1812D	N13	E43	.722	15967	29.0	2D	-N	2	P	1812	40	.6	
942 HOLL	25	1950	1952	1954	N18	E40	.714	15967	28.8	4	-N	3	C		35		Y5
943 HOLL	25	1951	1951	1954	N27	E87	1.000	15971	2.4	3	-F	3	C				F Y5
944 HOLL	25	1955	1956	2000	S24	E53	.813	15968	29.8	5	-N	3	C		24		F Y5
945 HOLL	25	2003	2005	2020	S25	E58	.858	15968	30.2	17	-N	3	C		20		Y5
946 HOLL	25	2004	2005	2006	N18	E39	.703	15967	28.8	2	-B	3	C		40		Y5
947 HOLL	25	2027	2027	2034	N18	E39	.703	15967	28.9	7	-B	3	C		26		DE Y5
GRP73948	25	2109	2137	2226	N19	E35	.667	15967	28.5	77	1N				210	2.8	FIJKLS
			2153+5														
HOLL	25	2109	2153	2226	N18	E38	.693	15967	28.7	77	-B	3	C		151		F
HOLL	25	2109	2137	2226	N18	E38	.693	15967	28.7	77	-N	3	C		60		F
CULG	25	2131E	2158	0209	N20	E35	.674	15967	28.5	278D	1N		P	2158	270	3.8	FIS
VORO	25	2142	2145	2215	N19	E34	.657	15967	28.5	33	-F		C	2145	116	1.5	EJKL
GRP73949	25	2131+3	2138+2	2156	S27	E53	.820	15968	29.9	25	2N				310	5.6	KUY
CULG	25	2131E	2138	2245	S28	E54	.831	15968	29.9	74D	1N		P	2138	220	4.0	KUY
HOLL	25	2134	2140	2156	S27	E53	.820	15968	29.9	22	2B	3	C		430		U F
VORO	25	2138E		2147	S26	E51	.800	15968	29.7	9D	1N		P	2141	287	4.8	E
GRP73950	25	2231	2245	2345	N20	E36	.684	15967	28.6	14	-N						Y5
			2259														
950 BIGB	25	2231	2235	2247	N20	E37	.695	15967	28.7	16	-N	2	C	2235	20	.3	Y5
950 BIGB	25	2243	2245	2255	N20	E32	.643	15967	28.3	12	-N	2	C	2245	40	.5	Y5
950 BIGB	25	2254	2259	2345	N19	E38	.699	15967	28.8	51	-N	1	C	2259	60	.8	Y5
951 CULG	25	2349E	2349	0015	N16	E31	.602	15967	28.3	26D	-N		P	2349	20	.3	Y5
952 CULG	26	0024	0033	0040	N25	E74	.977	15971	1.6	16	-F		C	0033	10		Y5
GRP73953	26	0041+0	0042+1	0053	N18	E36	.671	15967	28.7	12	-N				70	.9	J
VORO	26	0041	0043	0058	N18	E37	.681	15967	28.8	17	-N	*	C	0043	99	1.3	DJ
PEKG	26	0041	0042	0048	N19	E36	.677	15967	28.7	7	-N	*	P	0045	50		E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	HEMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP73954	26	0110+2	0114+5	0138	N20	E37	.694	15967	28.8	28	-N				60	.8	K
CULG	26	0110	0117	0138	N18	E38	.692	15967	28.9	28	-F	*	C	0117	50	.7	
VORO	26	0111	0119	01240	N20	E35	.673	15967	28.7	130	-B	*	P	0119	63	.8	EK
PEKG	26	0112	0114	01270	N20	E37	.694	15967	28.8	150	-N	*	P	0114	63		D
GRP73955	26	0129	0154	0221	S23	E53	.812	15968	30.0	52	-N						EL
CULG	26	0129	0154	0235	S22	E53	.810	15968	30.0	66	-N		C	0154	100	1.7	L
VORO	26	0201E		0206	S25	E53	.816	15968	30.1	50	1F		P	0202	134	2.2	CE
956 CULG	26	0209	0215	0223	S25	E31	.588	15972	28.4	14	-F		C	0215	20	.2		Y5
	26	0323	0334	NO FLARE PATROL													
	26	0346	0347	NO FLARE PATROL													
957 CULG	26	0350	0403	0426	N18	E28	.584	15967	28.3	36	-N		C	0403	60	.8		Y5
958 CULG	26	0403	04070	04070	S30	E49	.795	15968	29.8	40	-F		P	0407	20	.4		Y5
	26	0411	0419	NO FLARE PATROL													
	26	0432	0437	NO FLARE PATROL													
	26	0454	0500	NO FLARE PATROL													
959 ABST	26	0520	0525	0535	N24	E78	.960	15971	1.5	15	1F		C	0525	87		DJ	Y5
960 ABST	26	0535	0538	0545	N19	E26	.572	15967	28.2	10	-N		C	0538	131	1.6	DJ	Y5
961 ABST	26	0552	0554	0604	N19	E36	.677	15967	28.9	12	-N		C	0554	87	1.2	DJ	Y5
962 HTPR	26	0559	0601	0618	S08	W15	.263	15959	25.1	19	-N		C	0601	40	.4		Y5
963 ABST	26	0632	0633	0641	S26	E29	.574	15972	28.4	9	-N		C	0633	87	1.1	DV	Y5
964 ISTA	26	0715		0730	N21	E26	.590	15967	28.3	15	-N						E	Y5
965 KHAR	26	0900E		09220	S27	E47	.766	15968	29.9	220	-F		P	0903	80	1.3	DL	Y5
966 KHAR	26	0900E		09300	S33	E57	.866	15968	30.7	300	-F		P	0903	70	1.2	D	Y5
GRP73967	26	0916+0	0918+1 0925	0942	N18	E26	.562	15967	28.3	26	-N				90	1.1	E	
HTPR	26	0916	0918	0935	N19	E26	.572	15967	28.3	19	-B		C	0918	60	.7		
TELV	26	0916	0919	0945	N18	E26	.562	15967	28.3	29	-N	3			125	1.4	E	
KHAR	26	0920E	0925	09420	N18	E25	.552	15967	28.3	220	-N		P	0928	150	2.0	E	
GRP73968	26	0948+8	1003+1 1012	1108	S27	E46	.757	15968	29.9	80	1N				150	2.3	HKLU	
KHAR	26	0948E	1012	10520	S27	E47	.766	15968	29.9	640	-N		P	1002	100	1.6	DLT	
TELV	26	0951	1004	1055	S26	E47	.763	15968	29.9	64	-N	3			123	1.8	HUK	
KHAR	26	0952	1003	10180	S29	E45	.755	15968	29.8	260	1N		P	1002	220	3.5	L	
HTPR	26	0956		10180	S26	E45	.743	15968	29.8	220	-N		C	1010	90	1.3	E	
TACH	26	0957E		10130	S27	E47	.766	15968	29.9	160	1N		C	0957	177	2.8	F	
CATA	26	1020E	1030	10300	S27	E46	.757	15968	29.9	100	-N	2	P	1030	56	.8		
HTPR	26	1026E		10510	S26	E45	.743	15968	29.8	250	-F		C	1036	50	.7	BC	
KHAR	26	1035E		11080	S32	E45	.768	15968	29.8	330	-F		P	1048	70	1.1		
KHAR	26	1056E		11100	S33	E48	.797	15968	30.1	140	-F		V	1057			DL	
GRP73969	26	1159+2	1202+1	1212	N24	E64	.931	15971	.3	13	-F				35			
KANZ	26	1159E	1203	1213	N26	E64	.934	15971	1.3	140	-F	2						
RAMY	26	1159	1203	1212	N23	E64	.929	15971	1.3	13	-N	3	C		40			
HTPR	26	1201	1202	1209	N24	E65	.936	15971	1.4	8	-F		C	1202	30	.6		
970 RAMY	26	1419	1419	1422	S31	E52	.823	15968	30.5	3	-F	3	C		21			Y5
GRP73971	26	1523+1	1523 1540+1	1610	S27	E43	.727	15968	29.9	47	-N				130	1.9	F	
HTPR	26	1523	1541	1608	S27	E43	.727	15968	29.9	45	-N		C	1541	100	1.3	E	
BIGB	26	1523	1540	15400	S29	E44	.745	15968	29.9	170	1N	2	P	1540	150	2.1		
HOLL	26	1523	1540	1611	S25	E45	.740	15968	30.0	48	-B	3	C		140		F	
HOLL	26	1523	1523	1611	S25	E45	.740	15968	30.0	48	-B	3	C		28		F	
RAMY	26	1524	1540	16070	S28	E42	.722	15968	29.8	430	-B	3	C		152		F	
972 HOLL	26	1548	1550	1557	N18	E28	.584	15967	28.8	9	-B	3	C		49			Y5
GRP73973	26	1659+3	1702+1	1716	N18	E27	.573	15967	28.7	17	-B				40	.5		
HOLL	26	1659	1702	1716	N18	E27	.573	15967	28.7	17	-B	3	C		36			
RAMY	26	1702	1703	1716	N19	E28	.593	15967	28.8	14	-B	3	C		36			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
974 BIGB	26	1710	1711	1718	N09	E90	1.000	15974	3.5	8	-F	2	C	1711	20			Y5
GRP73975	26	1810+0	1813+1	1840	N22	E61	.909	15971	.3	30	1B				90	2.1		
HOLL	26	1810	1813	1840	N23	E67	.945	15971	1.8	30	-B	3	C		94		FDE	
BIGB	26	1810	1813	1853	N21	E60	.900	15971	1.3	43	1N	*	P	1813	100	2.1		
RAMY	26	1811E	1814	1828	N22	E61	.909	15971	1.3	170	-B	*	C		84			
GRP73976	26	2001+1	2013+3	2048D	N12	E31	.574	15967	29.2	47	1B				280	3.4	FU	
BIGB	26	2001	2013	2224	N11	E31	.568	15967	29.2	139	1B	2	P	2013	310	3.7		
HOLL	26	2002	2013	2048	N13	E31	.581	15967	29.2	46	1B	3	C		259		U F	
977 HOLL	26	2016	2017	2021	N23	E65	.935	15971	1.7	5	-N	3	C		15			Y5
978 HOLL	26	2024	2024	2028	N22	W09	.471	15963	26.2	4	-N	3	C		25			Y5
979 BIGB	26	2029	2036	2144	N16	E46	.766	0	30.3	75	-F	2	P	2036	30	.4	G	Y5
980 HOLL	26	2048	2051	2053	N22	W09	.471	15963	26.2	5	-N	3	C		28			Y5
981 CULG	27	0003	0006	0014	N19	W35	.666	0	24.4	11	-N		C	0006	10	.1	G	Y5
982 CULG	27	0027	0032	0052	N15	E19	.457	15967	28.4	25	-N		C	0032	60	.7		Y5
983 CULG	27	0117	0122	0132	S29	W78	.976	15951	21.2	15	-N		C	0122	20			Y5
984 MANI	27	0145E	0145U	0150D	S31	E43	.746	15968	30.3	5D	-B	3	C		100		F	Y5
985 CULG	27	0318	0341	0358D	S28	E37	.672	15968	29.9	40D	1N		P	0341	200	2.8		Y5
GRP73986	27	0458+1	0458+2	0503	N16	E18	.457	15967	28.6	5	-F				90	1.0	DJ	
ABST	27	0458E	0458	0504	N16	E21	.489	15967	28.8	6D	-F		P	0458	87	1.0	BDJ	
ABST	27	0459	0500	0502	N17	E16	.450	15967	28.4	3	-F		C	0500	87	1.0	DJ	
GRP73987	27	0513	0518	0530	N22	W15	.506	15963	26.1	17	1N						DJ	
ABST	27	0513	0518	0536	N23	W14	.512	15963	26.2	17	1N		C	0518	201	2.4	DJ	
MANI	27	0522E	0522J	0525D	N21	W17	.508	15963	25.9	3D	-N	3	C		40			
MANI	27	0523E	0523	0525D	N22	W14	.499	15963	26.2	2D	-N	3	C		40			
GRP73988	27	0529>9	0538+5 0549	0555	N16	E15	.429	15967	28.4	26	-N							
ABST	27	0529	0538	0554	N16	E15	.429	15967	28.4	25	1N		C	0538	183	2.1	F	
HTPR	27	0540	0543	0555	N17	E13	.424	15967	28.2	15	-F		C	0543	40	.4	E	
CULG	27	0547E	0549J	0550D	N15	E15	.416	15967	28.4	3D	-N		P	0549	20	.2		
GRP73989	27	0537+8	0549+2	0637D	N12	E80	.988	15974	2.2	60	1N						J	
ABST	27	0537	0551	0637D	N14	E84	.997	15974	3.5	60D	1N		P	0551	236		FJ	
HTPR	27	0545		0611D	N12	E77	.979	15974	3.0	26D	-F		C	0555	40		E	
CULG	27	0547E	0549U	0550D	N09	E80	.987	15974	3.2	3D	1B		P	0549	80			
GRP73990	27	0552+2	0555	0612	S27	E36	.656	15968	29.9	20	-F						EJ	
ABST	27	0552	0555	0612	S28	E37	.672	15968	30.0	20	1F		C	0555	244	3.4	EJ	
HTPR	27	0554		0611D	S26	E35	.639	15968	29.9	17D	-F		C	0556	40	.5	E	
991 ABST	27	0601	0609	0637D	N20	E17	.496	15967	28.5	36D	?N		P	0609	288	3.4	EJK	Y5
	IMP.1 NO 8 HTPR																	
GRP73992	27	0643E	0724	0731	N18	E17	.471	15967	28.6	48	1B				270	3.1	EHJ	
HTPR	27	0643E		0727	N20	E15	.480	15967	28.4	44D	1B		C	0658	220	2.3	E	
MANI	27	0705E	0705J	0713D	N18	E16	.462	15967	28.5	5D	-B	2	C		160		F	
ABST	27	0713E	0713	0731D	N20	E16	.488	15967	28.5	18D	1B		P	0713	349	4.1	EJ	
ABST	27	0715E	0724	0731D	N16	E22	.499	15967	29.0	16D	-N		P	0724	105	1.2	EJ	
TELV	27	0718E	0718	0735	N18	E19	.490	15967	28.7	17D	1N	2			196	2.1	H	
993 ABST	27	0808	0810	0819	N16	E15	.429	15967	28.5	11	-F		C	0810	114	1.3	EJ	Y5
994 ABST	27	0823E	0823	0835	N13	E90	1.000	0	4.1	12D	1N		P	0823	87		AD	Y5
995 ABST	27	0921	0924	0936D	N17	E20	.489	15967	28.9	15D	-N		P	0924	87	1.0	DJ	Y5
996 ABST	27	0957	0958	1008	N17	E20	.489	15967	28.9	11	-N		C	0958	87	1.0	DJV	Y5
	27	1010	1015	NO FLARE PATROL														
997 CATA	27	1020	1025	1035	N15	E13	.398	15967	28.4	15	-N	2	C	1025	84	.9		Y5
	27	1055	1125	NO FLARE PATROL														
	27	1210	1311	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
	27	0132	0140	NO FLARE PATROL													
	27	0156	0202	NO FLARE PATROL													
	27	0204	0220	NO FLARE PATROL													
	27	0232	0244	NO FLARE PATROL													
	27	0250	0314	NO FLARE PATROL													
	27	0342	0354	NO FLARE PATROL													
	27	0358	0428	NO FLARE PATROL													
	27	0424	0437	NO FLARE PATROL													
	27	0446	0453	NO FLARE PATROL													
	27	0637	0643	NO FLARE PATROL													
	27	0756	0804	NO FLARE PATROL													
	27	0821	0822	NO FLARE PATROL													
998 RAMY	27	1345	1349	1400	N23	E50	.829	15971	1.3	15	-N	3	C		32			Y5
GRP73999	27	1455+1	1457+1	1512	N15	E11	.381	15967	28.4	17	-B				160	1.7	FU	
BIGB	27	1455	1458	1512	N15	E12	.389	15967	28.5	17	-B	2	C	1458	160	1.7		
RAMY	27	1456	1457	1510	N16	E11	.395	15967	28.4	14	-B	3	C		136		F	
HOLL	27	1456	1458	1515	N15	E11	.381	15967	28.4	19	-B	3	C		175		U F	
BIGB	27	1457	1458	1500	N15	E19	.457	15967	29.0	3	-N	2	C	1458	10	.1		
0 BIGB	27	1525	1541	1551	S36	W90	.999	0	28.9	26	-N	2	C	1541	30			Y5
GRP74001	27	1628	1640 1648	1725	N19	E10	.431	15967	28.4	57	-B							
BIGB	27	1628	1648	1725	N20	E10	.446	15967	28.4	57	-B	2	P	1648	150	1.5		
HOLL	27	1634E	1640	1725	N19	E10	.431	15967	28.4	510	-B	3	C		186		FDE	
2 HOLL	27	1641	1645	1648	N11	W56	.847	15955	23.5	7	-N	3	C		23		F	Y5
3 BIGB	27	1719	1721	1741	S36	W90	.999	0	21.0	22	-N	3	C	1721	20			Y5
GRP74004	27	1722+5	1729+2	1752	N22	E49	.817	15971	.4	30	-N				40	.7		
BIGB	27	1722	1729	1753	N22	E50	.826	15971	1.5	31	-F	3	C	1729	50	.9		
HOLL	27	1727	1731	1750	N23	E48	.813	15971	1.3	23	-B	3	C		34			
GRP74005	27	1729>9	1749+1	1801	N15	E12	.389	15967	28.6	32	-N				130	1.4		
HOLL	27	1729	1750	1758	N16	E14	.420	15967	28.8	29	-B	3	C		151		FDE	
BIGB	27	1739	1749	1803	N14	E10	.359	15967	28.5	24	-N	2	C	1749	120	1.3	E	
GRP74006	27	1743+1	1751+1	1810	S26	E29	.574	15968	29.9	27	-N				140	1.7	F	
BIGB	27	1743	1752	1816	S27	E30	.593	15968	30.0	33	-N	2	C	1752	160	1.9		
HOLL	27	1744	1751	1804	S26	E28	.564	15968	29.8	20	-B	3	C		120		F	
7 BIGB	27	1854	1901	1902	S14	E11	.248	15972	28.6	8	-N	2	C	1901	20	.2	E	Y5
8 HOLL	27	1902	1904	1907	N16	E14	.420	15967	28.8	5	-B	3	C		21			Y5
GRP74009	27	1909+0	1910+0	1912	N14	E14	.394	15967	28.8	3	-N				45	.5		
BIGB	27	1909	1910	1911	N13	E16	.402	15967	29.0	2	-N	2	C	1910	60	.6		
HOLL	27	1909	1910	1913	N16	E13	.411	15967	28.8	4	-B	3	C		29			
GRP74010	27	1931+1	1937+1	2003	N15	E13	.398	15967	28.8	32	1B				330	3.6		
BIGB	27	1931	1937	2002	N14	E10	.359	15967	28.6	31	1B	3	C	1937	240	2.5		
HOLL	27	1932	1938	2003	N16	E13	.411	15967	28.8	31	1B	3	C		387			
BIGB	27	1932	1937	1950	N16	E16	.438	15967	29.0	18	-N	3	C	1937	30	.3		
11 BIGB	27	2040	2049	2105	N20	E08	.435	15967	28.5	25	-N	2	C	2049	20	.2		Y5
12 BIGB	27	2051	2057	2112	N22	E49	.817	15971	1.5	21	-N	1	C	2057	50	.8		Y5
GRP74013	27	2129+2	2136+1	2202	N17	E08	.390	15967	28.5	33	-B				60	.7	EK	
CULG	27	2129	2136	2207	N17	E08	.390	15967	28.5	38	-N		C	2136	60	.7		
VORO	27	2131	2137	2202	N17	E08	.390	15967	28.5	31	-B		C	2137	116	1.2	EK	
HOLL	27	2131	2136	2155	N16	E12	.403	15967	28.8	24	-B	3	C		45		DE	
GRP74014	27	2213+2	2221+3	2231	N24	E44	.783	15971	.2	18	-N				50	.8	H	
BIGB	27	2213	2224	2234	N22	E45	.782	15971	1.3	21	-N	1	C	2224	60	.9		
VORO	27	2215	2221	2227	N26	E43	.784	15971	1.2	12	-N		C	2221	54	.8	H	
15 VORO	27	2234	2237	2254	N17	E08	.390	15967	28.5	20	-N		C	2237	36	.4	D	Y5
GRP74016	28	0140+2	0155+3	02090	N17	E07	.384	15967	28.6	29	1B				200	2.2	FH	
MANI	28	0140	0155	0245	N17	E07	.384	15967	28.6	65	1B	3	C		230		F	
VORO	28	0142		02000	N16	E05	.359	15967	28.4	180	-N		C	0149	152	1.6	EH	
MANI	28	0151E	0155U	0209	N18	E12	.429	15967	29.0	180	-B	3	V		180		F	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR AREA Sq. Deg.		
17 TACH	28	0416	0420	0430	N17	E05	.375	15967	28.6	14	-N		C	0420	88	.9	CE	Y5
GRP74018	28	0505+2	0507+3	0528	N17	E06	.379	15967	28.7	23	1N				220	2.4	EJ	
ABST	28	0505E	0507	0530	N16	E04	.356	15967	28.5	25D	1N		P	0507	218	2.3	EJ	
ABST	28	0507	0510	0526	N16	E09	.380	15967	28.9	19	-N		C	0510	87	.9	DJ	
ABST	28	0508	0510	0520	N19	E06	.410	15967	28.7	12	-N		C	0510	131	1.4	DJ	
19 ABST	28	0546	0548	0553D	N16	E05	.359	15967	28.6	7D	?N		P	0548	218	2.3	EJ	Y5
	IMP.1 NO # MANI																	
20 CULG	28	0601	0608	0618	S15	W34	.574	0	25.7	17	-F		C	0608	20	.2		Y5
21 CULG	28	0612	0616	0622	S29	E19	.506	15968	29.7	10	-F		C	0616	20	.2		Y5
GRP74022	28	0736+2	0738+0	0744	N14	E05	.328	15967	28.7	8	-N				110	1.2	DJ	
ABST	28	0736	0738	0740	N16	E05	.359	15967	28.7	4	-N		C	0738	131	1.4	DJ	
ABST	28	0736E	0738	0745	N14	E07	.338	15967	28.8	9D	-N		P	0738	87	.9	DJ	
KANO	28	0738		0744	N14	E04	.324	15967	28.6	6	-N		P					
23 KANO	28	0755		0805	S29	E19	.506	15968	29.8	10	-N		P		135	1.6		Y5
GRP74024	28	0838E	0840	0901	N18	E01	.383	15967	28.4	23	-F						EJ	
ABST	28	0838E	0840	0901	N16	E02	.351	15967	28.5	23D	-F		P	0840	175	1.9	EJ	
ABST	28	0838E	0839	0846	N21	E01	.430	15967	28.4	8D	-F		P	0839	87	1.0	DJ	
25 ISTA	28	0850		0915	S41	W30	.711	15979	26.1	25	-N						K	Y5
26 ISTA	28	0912		0917	N20	E08	.434	15967	29.0	5	-N						D	Y5
GRP74027	28	0923	0931 0938	0957D	N17	E03	.369	15967	28.6	34	-N						FJK	
ABST	28	0923	0938	0957D	N16	E02	.351	15967	28.5	34D	-F		P	0938	183	2.0	FJK	
ISTA	28	0925E		0950D	N17	E02	.368	15967	28.5	25D	1B						F	
ABST	28	0928	0931	0957D	N17	E06	.379	15967	28.8	29D	-F		P	0931	87	1.0	DJ	
28 ISTA	28	0924E		0927D	S26	E19	.472	15968	29.8	3D	-N						D	Y5
29 HTPR	28	1049		1056D	S27	E21	.502	15968	30.0	7D	-F		C	1053	30	.3		Y5
30 HTPR	28	1108E		1126D	S40	W06	.587	0	28.0	18D	-F		C	1117	40	.5		Y5
	28	1205	1215	NO FLARE PATROL														
GRP74031	28	1309+1	1312	1320D	N26	E43	.784	15971	.8	11	-N				20	.3		
HTPR	28	1309E		1320D	N25	E46	.804	15971	2.0	11D	-N		C	1310	20	.3		
RAMY	28	1310	1312	1319D	N27	E40	.764	15971	1.5	9D	-B	3	C		21			
GRP74032	28	1404+9	1417+5	1432	N15	00	.333	15967	28.6	28	-N				50	.5		
HTPR	28	1404	1422	1435	N17	E01	.367	15967	28.7	31	-F		C	1422	40	.4	E	
RAMY	28	1413	1417	1429	N14	E00	.317	15967	28.6	16	-B	3	C		71		FDE	
33 RAMY	28	1501	1501	1505	N25	E33	.689	15971	1.1	4	-N	3	C		46			Y5
34 RAMY	28	1638	1641	1648	N09	E57	.852	15974	3.0	10	-N	3	C		21			Y5
35 RAMY	28	1700	1701	1707D	N14	W01	.317	15967	28.6	7D	-B	3	C		72		F	Y5
	28	1745	1901	NO FLARE PATROL														
	28	2020	2034	NO FLARE PATROL														
36 HOLL	28	2032	2035	2042	N13	E54	.833	15974	2.9	10	-B	3	C		32			Y5
37 CULG	28	2117E	2124	2132	N18	E03	.385	15967	29.1	15D	-F		C	2124	40	.4		Y5
38 CULG	28	2126	2135	2141	S30	E11	.463	15968	29.7	15	-N		C	2135	30	.3		Y5
GRP74039	28	2146>9	2203 2222	2223	N18	E02	.384	15967	29.1	37	-F						K	
CULG	28	2146	2222	2228	N18	E03	.385	15967	29.1	42	-F		C	2222	50	.6	KT	
BIGB	28	2158	2203	2217	N19	E01	.399	15967	29.0	19	-F	2	C	2203	40	.4		
40 CULG	28	2214	2222	2230	S33	W71	.949	0	23.6	16	-F		C	2222	10			Y5
GRP74041	28	2235+5	2247+0	2251	N18	E01	.383	15967	29.0	16	-N				60	.7		
HOLL	28	2235E	2247	2251	N18	E01	.383	15967	29.0	16D	-B	3	C		51			
CULG	28	2238	2247	2252	N18	E02	.384	15967	29.1	14	-N		C	2247	60	.7	T	
BIGB	28	2240	2247	2251	N19	E01	.399	15967	29.0	11	-N	2	C	2247	60	.6		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		ZONE	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
42 CULG	28	2349	2356	0007	N17	W03	.369	15967	28.8	18	-F		C	2356	40	.4	YS
43 CULG	29	0024	0027	0035	N24	E36	.788	15971	1.7	11	-N		C	0027	30	.4	YS
44 CULG	29	0036	0036	0049	N15	E55	.846	15974	3.1	19	-F		C	0036	40	.7	YS
45 CULG	29	0033	0111	0150	N30	W12	.591	15981	28.1	77	-F		C	0111	40	.5	G YS
46 CULG	29	0159	0204	0218	N16	E51	.813	15974	2.9	19	-N		C	0204	40	.7	YS
47 CULG	29	0205	0211	0229	N17	E07	.382	15967	29.6	24	-N		C	0211	30	.3	YS
48 CULG	29 IMP.1	0241 NO I	0303 MANI	0610 HITK	S18	W55	.823	15958	25.0	209	?N		C	0303	100	3.1	SG YS
49 CULG	29	0320	0324	0342	N15	E53	.829	15974	3.1	22	-N		C	0324	70	1.3	YS
50 CULG	29	0335	0342	0353	S23	W01	.320	15968	29.1	18	-N		C	0342	30	.3	YS
51 CULG	29	0417	0427	0442	N21	E32	.648	15971	1.6	25	-F		C	0427	80	1.0	YS
52 CULG	29	0441	0454	0506	S33	E22	.577	15968	30.8	25	-F		C	0454	30	.3	YS
53 CULG	29	0510	0517	0529	S28	E07	.415	15968	29.7	19	-N		C	0517	40	.4	YS
54 CULG	29	0539	0542	0554	N18	W18	.478	15967	27.9	15	-F		C	0542	20	.2	G YS
55 CULG	29	0559	0613	0629	N15	E51	.810	15974	3.1	30	-F		C	0613	20	.3	YS
GRP74056	29	0610+7	0616+4	0627	N18	E02	.382	15967	29.4	17	-F						OJ
CULG	29	0610	0620	0634	N17	E06	.378	15967	29.7	24	-N		C	0620	30	.3	
ABST	29	0611E	0616	0628	N19	E07	.413	15967	29.8	170	-F		P	0616	87	1.0	OJ
MANI	29	0616E	0616U	0624	N17	W08	.388	15967	28.7	80	-N	3	C		20		
ABST	29	0617	0619	0626	N19	W02	.398	15967	29.1	9	-F		C	0619	61	.7	OJ
57 CULG	29	0626	0631	0643	S25	E10	.387	15968	30.0	17	-N		C	0631	90	1.0	F YS
GRP74058	29	0728+7	0733+4 0747	0757	N16	E51	.813	15974	2.1	29	-B						FJZ
ABST	29	0728	0733	0759	N17	E50	.807	15974	3.1	31	1B		C	0733	227	3.9	FJ
TELV	29	0731	0734	0756	N17	E51	.816	15974	3.1	25	1N	2			163	2.6	
MANI	29	0731	0734	0750	N17	E51	.816	15974	3.1	19	-B	3	C		70		F
KANZ	29	0733	0737	0752	N18	E49	.801	15974	3.0	19	-B	2					
CATA	29	0735	0735	0750D	N15	E50	.801	15974	3.1	150	-B	2	P	0735	56	.9	
WEND	29	0737E		0802	N17	E51	.816	15974	3.1	250	1N		C	0741	250	4.3	Z
ABST	29	0744	0747	0816	N12	E53	.821	15974	3.3	32	-F		C	0747	87	1.5	OJ
GRP74059	29	0735+5	0743+2	0826	N12	W01	.283	15967	29.2	51	1N				330	3.5	FJV
ABST	29	0720	0743	0856	N11	W01	.266	15967	29.2	96	1B	*	C	0743	349	3.7	FJ
ABST	29	0728	0729	0732	N17	W11	.407	15967	28.5	4	-F	*	C	0729	44	.5	OJV
ISTA	29	0735		0750	N13	W02	.301	15967	29.2	15	-N	*					E
ABST	29	0738	0741	0754	N16	W01	.349	15967	29.2	16	-N	*	C	0741	114	1.2	OJ
MANI	29	0739	0743	0824	N11	E01	.266	15967	29.4	45	-B	*	C		95		F
CATA	29	0748	0745	0830D	N12	W01	.283	15967	29.2	50D	1B	*	P	0745	309	3.3	
KANZ	29	0740	0744	0834	N11	W01	.266	15967	29.2	54	1N	*					F
WEND	29	0740	0743	0830D	N14	E00	.315	15967	29.3	50D	1N	*	C	0743	400	4.2	
HITK	29	0742E		0813D	N11	E01	.266	15967	29.4	31D	-N	*	C	0742			E
GRP74060	29	0823+2	0825+1	0835	N15	W09	.364	15967	28.7	12	-N						FJ
MANI	29	0823	0825	0836	N14	W09	.349	15967	28.7	13	-B	*	C		25		
KANZ	29	0823	0826	0834	N14	W10	.357	15967	28.6	11	-N	*					
ABST	29	0823	0826	0837	N15	W08	.358	15967	28.7	14	-N	*	P	0826	175	1.9	FJ
WEND	29	0823		0833	N17	W08	.388	15967	28.7	10	-N	*	C				
CATA	29	0825	0825	0830D	N15	W09	.364	15967	28.7	50	-N	*	P	0825	56	.6	
GRP74061	29	0918+2	0923+2	0929	N16	E47	.775	15974	1.9	11	-N						HJ
ABST	29	0918	0920	0929	N19	E48	.796	15974	3.0	11	1N		C	0920	175	2.9	EJ
KHAR	29	0919E	0922	0929D	N16	E45	.754	15974	2.8	100	-N		P	0925	90	1.3	DH
CATA	29	0920	0920	0920D	N16	E47	.775	15974	2.9		-N	2	P	0920	45	.7	
GRP74062	29	0921+1	0925+1	0949	N17	W07	.382	15967	28.9	28	-F				90	1.0	OJ
ABST	29	0921	0925	0957D	N17	W06	.378	15967	28.9	36D	-F		P	0925	87	1.0	OJ
ABST	29	0922	0926	0939	N17	W13	.422	15967	28.4	17	-F		C	0926	87	1.0	OJ
ABST	29	0924	0928	0940	N18	W04	.386	15967	29.1	16	-F		C	0928	87	1.0	OJ
63 ABST	29	0952	0954	0957D	N23	E26	.607	15971	1.4	50	1F		P	0954	201	2.6	EJ YS

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.		
	29	1005	1015	NO FLARE PATROL														
64 KHAR	29	1042E		1048D	N14	E43	.725	15974	2.7	6D	-F		V	1044			D	Y5
65 KHAR	29	1047E		1053D	N09	W19	.394	0	28.0	6D	-F		V	1047			D	Y5
GRP74066	29	1448+3	1455+0	1504	N16	E40	.781	15974	1.6	16	-N				30	.4		
HOLL	29	1448	1455	1505	N16	E39	.690	15974	2.5	17	-N	3	C		30			
RAMY	29	1451	1455	1502	N16	E42	.723	15974	2.8	11	-N	4	C		30			
67 HOLL	29	1530	1538	1545	N15	E41	.707	15974	2.7	15	-B	3	C		43		F	Y5
GRP74068	29	1540+0	1540+0	1549	N16	W13	.488	15967	28.7	9	-B				50	.5	F	
KANZ	29	1540	1540	1551	N17	W14	.430	15967	28.6	11	-B	2						
HOLL	29	1540	1540	1549	N16	W13	.488	15967	28.7	9	-B	3	C		55		F	
RAMY	29	1540	1540	1546	N16	W11	.393	15967	28.8	6	-B	4	C		36			
GRP74069	29	1603+2	1613+0	1627	N16	E44	.744	15974	2.0	24	-B				60	.9	F	
RAMY	29	1603	1613	1624	N17	E43	.738	15974	2.9	21	-B	3	C		55		F	
HOLL	29	1605	1613	1624	N17	E44	.748	15974	3.0	19	-B	3	C		60		F	
HOLL	29	1606	1609	1629	N12	E48	.771	15974	3.3	23	-B	3	C		39			
	29	1640	1813	NO FLARE PATROL														
	29	1821	1909	NO FLARE PATROL														
	29	1913	2210	NO FLARE PATROL														
70 CULG	29	2241	2254U	2254D	S23	E03	.323	15968	30.2	13D	-N		P	2254	80	.8		Y5
71 MANI	29	2305E	2306	2312	N20	W20	.520	15967	28.5	7D	-N	3	C		30			Y5
72 MANI	30	0025E	0026	0033	N14	E37	.656	15974	2.8	8D	-B	3	C		100			Y5
73 MANI	30	0025	0027	0043	N28	E21	.617	15971	1.6	18	-N	*	P		120	1.6		Y5
74 MANI	30	0031	0032	0040	S24	W04	.343	15968	29.7	9	-N	3	C		50		F	Y5
GRP74075	30	0111	0221 0239	0248D	N11	E38	.653	15974	1.9	97	-N						FK	
CULG	30	0111	0239	0425	N10	E39	.661	15974	3.0	194	1N		C	0239	280	3.7	FTK	
MANI	30	0219E	0221	0248	N10	E37	.636	15974	2.9	29D	-N	3	C		60			
MANI	30	0219E	0220	0243	N14	E38	.668	15974	2.9	24D	-N	3	C		30			
76 CULG	30	0141	0214	0239	S16	E39	.643	15978	3.0	58	-F		C	0214	50	.7		Y5
77 CULG	30	0432	0440	0501	N22	W22	.559	15967	28.5	29	-N		C	0440	30	.4		Y5
GRP74078	30	0519+3	0525+3	0602	N11	E42	.701	15974	2.4	43	-B				100	1.4	FJ	
CULG	30	0519	0528	0602	N10	E41	.685	15974	3.3	43	-B		C	0528	130	1.8		
ABST	30	0520	0525	0603	N14	E42	.713	15974	3.4	43	1B		C	0525	236	3.4	FJ	
MANI	30	0522	0526	0540	N12	E42	.705	15974	3.4	18	-B	3	C		80			
MANI	30	0525E	0526	0538D	N11	E43	.713	15974	3.5	13D	-B	3	V		60			
GRP74079	30	0528+3	0532+2	0545	S24	W26	.528	15972	28.3	17	-F				100	1.2	DJLV	
CULG	30	0528	0534	0550	S24	W26	.528	15972	28.3	22	-N		C	0534	120	1.4	L	
ABST	30	0531	0532	0540	S25	W26	.536	15972	28.3	9	-F		C	0532	87	1.1	DJV	
GRP74080	30	0531>9	0538 0602	0615	N17	E30	.595	15974	1.5	44	-F						FJ	
ABST	30	0531	0538	0614	N16	E33	.622	15974	2.7	43	-F	*	C	0538	114	1.5	FJ	
CULG	30	0541	0602	0615	N18	E28	.580	15974	2.3	34	-F	*	C	0602	20	.2		
GRP74081	30	0611+2	0614+0	0619	N14	E33	.609	15974	1.7	8	-B				90	1.1	DJ	
CULG	30	0611	0614	0623	N12	E33	.597	15974	2.7	12	-B	*	C	0614	90	1.2		
ABST	30	0612	0614	0619	N14	E33	.609	15974	2.7	7	-B	*	C	0614	131	1.7	DJ	
MANI	30	0613	0614	0618	N15	E33	.615	15974	2.7	5	-B	*	C		30			
GRP74082	30	0630+4	0634+5	0648	N28	E18	.597	15971	.6	18	-N				40	.5	EJ	
ABST	30	0630	0634	0642	N27	E18	.585	15971	1.6	12	-N		P	0634	157	2.0	EJ	
CULG	30	0632	0639	0658	N28	E18	.597	15971	1.6	26	-N		C	0639	40	.5		
MANI	30	0634	0636	0648	N28	E18	.597	15971	1.6	14	-B	3	C		35			
83 ABST	30	0909	0913	0935	N18	E35	.657	15974	3.0	26	-F		C	0913	87	1.2	DJ	Y5
GRP74084	30	1005+0	1005+0	1015	N18	E34	.646	15974	2.0	10	-F						DJ	
ABST	30	1005E	1005	1007D	N19	E34	.653	15974	3.0	2D	-F		P	1005	87	1.2	DJ	
CATA	30	1005	1005	1015	N18	E34	.646	15974	3.0	10	-N	2	C	1005	16	.2		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
85 KANO	30	1135		1145	N18	E26	.559	15974	2.4	10	-F		C		42	.5	E	Y5
86 RAMY	30	1153	1155	1204	N14	E24	.500	15974	2.3	11	-N	2	C		44			Y5
87 KANO	30	1251	1254	1259	N17	E33	.628	15974	3.0	8	-F		C		63	.8		Y5
	30	1324	1329	NO FLARE PATROL														
GRP74088	30	1557+0	1559+1	1614	N28	E13	.568	15971	.6	17	-B				110	1.3		
BIGB	30	1557	1559	1616	N28	E13	.568	15971	1.6	19	-B	1	P	1559	130	1.4		
RAMY	30	1557	1559	1612	N27	E10	.541	15971	1.4	15	-B	3	C		103			
HOLL	30	1557	1600	1614	N29	E14	.586	15971	1.7	17	-B	3	C		104		DE	
GRP74089	30	1616+4	1619+0 1629	1719	N16	E26	.541	15974	1.6	63	-B						F	
RAMY	30	1616	1619	1721	N16	E26	.541	15974	2.6	65	-B	3	C		77		F	
HOLL	30	1619	1619	1653	N15	E23	.498	15974	2.4	34	-B	3	C		25		F	
BIGB	30	1620	1629	1719	N17	E27	.561	15974	2.7	59	-N	2	C	1629	60	.7		
BIGB	30	1628	1631	1640	N20	E27	.587	15974	2.7	12	-F	2	C	1631	20	.2		
BIGB	30	1645	1646	1652	N15	E28	.556	15974	2.8	7	-N	2	C	1646	30	.4		
HOLL	30	1656	1658	1705	N15	E23	.498	15974	2.4	9	-B	3	C		42			
90 RAMY	30	1747	1747	1754	N15	E22	.486	15974	2.4	7	-N	3	C		24			Y5
91 BIGB	30	1839	1842	1851	N22	W38	.635	15967	28.5	12	-N	2	C	1842	60	.7		Y5
GRP74092	30	2156+2	2202+1 2210	2212	N12	E25	.496	15974	1.8	14	-N				170	2.0		
CULG	30	2158	2203	2219	N09	E25	.473	15974	2.8	12	1N		C	2203	200	2.3		
BIGB	30	2158	2203	2211	N11	E25	.488	15974	2.8	13	1N	2	C	2203	300	3.4		
HOLL	30	2159	2202	2213	N16	E21	.485	15974	2.5	14	-B	2	C		141		DE	
MANI	30	2200	2203	2209	N12	E25	.496	15974	2.8	9	-N	2	C		100		F	
BIGB	30	2205	2210	2217	N13	E31	.578	15974	3.2	12	-N	2	C	2210	40	.5		
GRP74093	30	2222+2	2224+2	2233	N12	E24	.483	15974	1.7	11	-N				80	.9	E	
CULG	30	2222	2226	2238	N10	E24	.467	15974	2.7	16	-N		C	2226	90	1.0		
BIGB	30	2223	2224	2231	N13	E24	.492	15974	2.7	8	-N	2	C	2224	90	1.0		
HOLL	30	2224	2225	2236	N16	E21	.485	15974	2.5	12	-B	2	C		103			
MANI	30	2224	2225	2233	N12	E23	.471	15974	2.7	9	-N	2	C		60			
VORO	30	2227E		2230	N10	E24	.467	15974	2.7	30	-B		C	2227	72	.8	BE	
94 CULG	30	2304	2310	2316	S16	E38	.536	15978	3.2	12	-F		C	2310	20	.2		Y5
95 CULG	30	2322	2327	2339	S29	E68	.932	15984	6.1	17	-F		C	2327	10		G	Y5
GRP74096	30	2348+9	0005+4	0033	N16	E23	.507	15974	1.7	45	1N						KL	
CULG	30	2348	2405	0039	N14	E23	.489	15974	2.7	81	1N	*	P	2405	180	2.1		
VORO	30	2354	2409	0032	N16	E19	.464	15974	2.4	38	1N	*	C	2409	224	2.5	EKL	
MANI	30	2358	2405	0033	N16	E23	.507	15974	2.7	35	-B	*	C		120		F	

DAILY FLARE INDICES

Includes all Flares

APRIL 1979

Date	Flare Index	HR. OBS	Date	Flare Index	HR. OBS	Date	Flare Index	HR. OBS
790401	697.84	23.7	790411	386.93	23.6	790421	22.17	22.7
790402	119.57	23.6	790412	48.25	20.1	790422	17.77	19.7
790403	268.60	24.0	790413	150.01	23.8	790423	15.52	21.0
790404	49.62	23.3	790414	230.68	24.0	790424	36.47	22.0
790405	51.99	23.6	790415	286.90	22.3	790425	137.96	22.9
790406	53.85	23.8	790416	143.87	22.0	790426	127.15	23.5
790407	12.61	23.8	790417	73.76	21.1	790427	243.53	20.1
790408	32.93	23.1	790418	40.96	22.6	790428	134.68	22.3
790409	46.39	23.5	790419	46.54	21.3	790429	179.72	18.5
790410	41.65	24.0	790420	30.93	24.0	790430	110.15	23.9

When no Flare Index is given, it is 0 for that day.

Purple Mt. and Yunnan Hα Solar Flares for April 1979
(Not included in group reports because of data processing delays)

Hα SOLAR FLARES

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION — MIN.	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY			COND.	TYPE	TIME — UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
YUNN	01	0812	0822	0159	S18	E40	.651	15920	4.0	107	1N		C		288		
PURP	02	0814E	0814U	0855	S25	E05	.327	15918	2.4	410	1B						
YUNN	02	0015	0027	0055	S24	E06	.316	15918	2.5	40	1N		C		283		
YUNN	03	0109	0218	0300	S28	W15	.436	15918	1.9	111	2N		C		629		
YUNN	03	0209	0213	0238	S28	W02	.369	15918	2.9	21	1N		C		236		
YUNN	03	0307	0313	0320	S23	W10	.328	15918	2.4	13	1N		C		236		
PURP	03	0427E	0427	0504	S25	W08	.343	15918	2.6	37D	1B						
YUNN	03	0508	0501	0540	S26	W06	.348	15918	2.8	48	1F		C		204		
YUNN	03	0648	0708	0717	S22	W08	.299	15918	2.7	29	1N		C		345		
PURP	03	0703	0704	0707	S20	W08	.269		2.7	4	SB						
YUNN	03	0823	0826	0858	S23	W10	.328	15918	2.6	27	1B		C		188		
YUNN	04	0710	0714	0730	S21	W58	.847	15916	30.9	20	1B		C		188		
PURP	04	0711	0713	0736	S23	W56	.832	15916	31.1	25	1B						
YUNN	05	0727	0730	0736	S22	W38	.641	15917	2.5	9	1N		C		157		
YUNN	05	0835	0837	0847	S22	W38	.641	15917	2.5	12	1F		C		173		
YUNN	05	0925	0927	0933	S22	W42	.680	15917	2.2	8	1N		C		173		
YUNN	06	0629	0634	0639	S36	W66	.920	15917	1.3	10	1F		C		141		
YUNN	06	0821	0825	0832	S22	W90	.999	15917	30.6	11	1B		C		110		
YUNN	06	0902	0916	0940	N19	E90	1.001	15933	13.1	38	3B		C		472		
YUNN	07	0303	0305	0317	S22	W62	.881	15917	2.5	14	1N		C		126		
YUNN	09	0110	0113	0118	N17	E56	.866	15936	13.2	8	1N		C		126		
YUNN	10	0502	0514	0534	N10	E90	1.000	15943	17.0	32	3N		C		629		
YUNN	10	0526	0540	0549	N04	E78	.943	15937	15.5	23	1N		C		157		
PURP	10	0628	0629	0637	S12	W59	.652	15924	5.8	9	1F						
YUNN	10	0628	0630	0655	S09	W59	.653	15924	5.8	27	1B		C		221		
PURP	11	0303E	0303	0317	N18	E23	.544		12.9	40	SF						
YUNN	11	0505	0505	0516	N05	E56	.838	15937	15.4	11	1N		C		157		
PURP	12	0425E		0425	N19	E10	.450	15933	12.9		1N						
PURP	16	0434E	0434	0439	N03	W08	.203		15.6	50	SB						
PURP	16	0518	0514	0521	N03	W09	.215	15937	15.5	11	1B						
PURP	16	0748E		0820	N17	W18	.481	15936	15.8	32D	1N						
PURP	20	0817E		0835D	N09	W48	.765	15943	16.4	180	2N				377	5.9	
YUNN	21	0258	0312	0320	N31	W48	.851	15942	17.5	22	1N		C		283		
PURP	21	0305	0315	0323	N27	W56	.890	15943	16.9	18	1N						
YUNN	23	0240	0245	0251	N20	E39	.716	15963	26.0	11	1N		C		172		
YUNN	24	0023	0030	0055	N21	E26	.592	15963	26.0	32	1F		C		204		
YUNN	24	0450	0453	0504	N18	E56	.864	15967	28.4	14	1N		C		110		
YUNN	25	0648	0655	0713	N20	E42	.745	15967	28.4	25	1F		C		142		
YUNN	25	0725	0732	0738	S24	E58	.856	15968	29.7	13	1N		C		110		
YUNN	27	0142	0149	0210	S32	E42	.742	15968	30.2	28	1N		C		188		
YUNN	27	0340	0344	0400	S28	E37	.672	15968	29.9	20	2N		C		392		
YUNN	27	0633	0656	0730	N19	E17	.484	15967	28.5	57	1B		C		188		
YUNN	28	0052	0100	0130	N15	E06	.348	15967	28.5	38	1N		C		236		
PURP	28	0209E	0209	0219	N16	E08	.374	15967	28.7	180	1N						
PURP	28	0448	0507	0527	N16	E07	.368	15967	28.7	39	1B						
YUNN	30	0030	0033	0047	N26	E22	.602	15971	1.7	17	1B		C		236		
YUNN	30	0146	0216	0300	N11	E38	.653	15974	2.9	74	1B		C		393		
PURP	30	0211E	0211	0211D	N10	E38	.649	15974	2.9		1N						
YUNN	30	0525	0528	0536	N11	E42	.701	15974	3.4	11	1N		C		157		

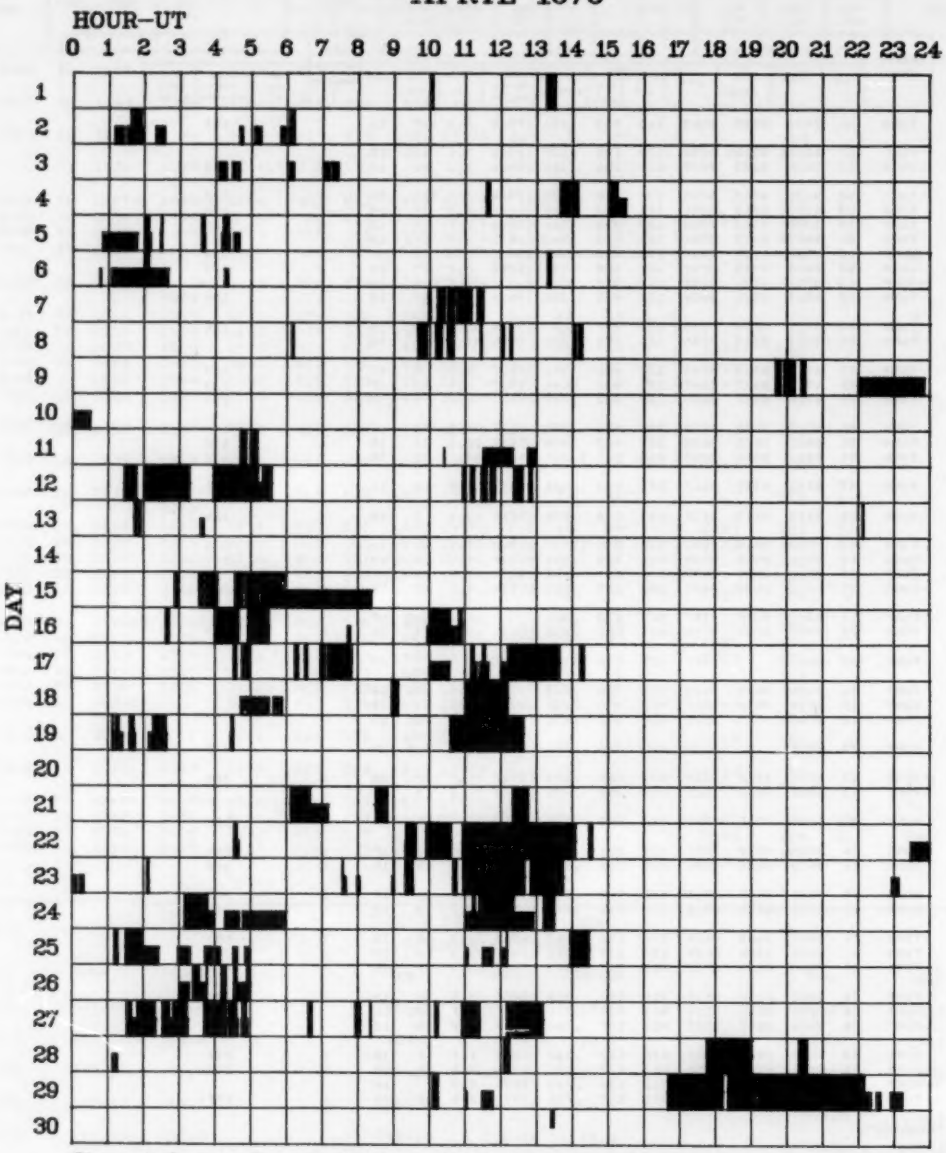
"REMARKS":

A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization
O = Observations have been made in the H and K lines of CaII.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

APRIL 1979



The total patrol included the following observatories:

Abastumani	Culgoora	Kanzelhöhe	McMath-Hulbert	Tashkent
Athens	Haute-Provence	Kharkov	Mitaka	Tel Aviv
Berne	Holloman	Kiev	Monte Mario	Voroshilov
Big Bear	Huancayo	Locarno	Palehua	Wendelstein
Bucharest	Istanbul	Lvov	Peking	Zürich
Catania	Kandilli	Manila	Ramey	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

REGIONAL FLARE INDEX

Includes all Flares

APRIL 1979

HC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15918	S27	79/04/02.7	79/03/26	79/04/09	1504.31	100.29	145
15920	S17	79/04/03.8	79/03/27	79/04/07	149.53	12.46	21
15923	N21	79/04/04.7	79/03/30	79/04/11	14.74	1.13	10
15939	N17	79/04/05.2	79/04/10	79/04/11	4.55	2.28	7
15924	S11	79/04/05.3	79/04/03	79/04/10	32.21	4.03	12
15926	S16	79/04/07.6	79/04/08	79/04/08	5.28	5.28	1
15940	S25	79/04/08.5	79/04/10	79/04/13	35.52	8.88	13
15929	S28	79/04/11.1	79/04/06	79/04/10	27.78	5.56	14
15934	N11	79/04/11.7	79/04/05	79/04/17	.85	.07	2
15935	N34	79/04/12.0	79/04/09	79/04/09	1.90	1.90	1
15930	S25	79/04/12.4	79/04/08	79/04/16	8.08	.90	4
15933	N23	79/04/13.2	79/04/05	79/04/18	107.11	7.65	50
15953	N35	79/04/13.5	79/04/15	79/04/17	9.12	3.04	6
15936	N14	79/04/14.2	79/04/07	79/04/20	16.74	1.20	8
15937	N 5	79/04/15.8	79/04/08	79/04/20	783.49	60.27	83
15938	S16	79/04/16.0	79/04/10	79/04/19	4.85	.49	3
15943	N16	79/04/16.5	79/04/10	79/04/22	41.16	3.17	16
15950	S16	79/04/17.1	79/04/13	79/04/22	28.62	2.86	11
15949	S24	79/04/17.1	79/04/12	79/04/19	62.58	7.82	27
15942	N30	79/04/17.2	79/04/11	79/04/22	207.68	17.31	66
15948	N 8	79/04/17.5	79/04/10	79/04/20	184.73	16.79	26
15952	N18	79/04/18.0	79/04/13	79/04/16	34.52	8.63	6
15951	S30	79/04/20.4	79/04/23	79/04/27	2.95	.59	2

Hα SOLAR FLARES

MAY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP74097	01	0002	0009	0031	N16	E17	.443	15974	2.3	29	-N				110	1.2		
BIGB	01	0002	0009	0023	N15	E13	.393	15974	2.0	21	-N	1	C	0009	100	1.1		
BIGB	01	0010E	0010	0039	N17	E22	.505	15974	2.7	29D	-N	2	P	0010	130	1.4		
98 PALE	01	0018E	0019J	0023D	S04	W01	.018	0	30.9	5D	?B	3	C		263		FDE	Y5
	IMP.1 NO 1 HOL.				BIGB	VORO												
99 VORO	01	0151	0156	0238	S18	W88	.998	15958	24.5	47	-F		C	0156	45		OG	Y5
GRP74138	01	0233+1	0235+0	0244	N22	W38	.713	15967	28.3	11	-N				60	.8	E	
CULG	01	0233	0235	0245	N22	W38	.713	15967	28.3	12	-N		C	0235	70	1.0		
VORO	01	0234	0235	0243	N22	W39	.723	15967	28.2	9	-N		C	0235	54	.7	E	
101 CULG	01	0239	0300	0308	N23	E01	.457	15971	1.2	29	-F		C	0300	30	.3		Y5
GRP74102	01	0351+2	0358+4	0416	N15	E18	.441	15974	2.5	25	1N				290	3.2	EIL	
CULG	01	0351	0400	0454	N15	E20	.463	15974	2.7	63	1N		C	0400	290	3.3	IT	
VORO	01	0353	0402	0416D	N17	E18	.464	15974	2.5	23D	1F		C	0402	332	3.7	EL	
MANI	01	0354E	0358	0415	N15	E18	.441	15974	2.5	21D	-B	3	C		150			
103 CULG	01	0408	0421	0508	S24	W2?	.464	15968	29.7	60	-B		C	0421	90	1.0	KH	Y5
104 CULG	01	0442	0447	0524	N12	W21	.445	15967	29.6	42	-F		C	0447	30	.3		Y5
105 CULG	01	0457	0508	0519	S21	E29	.542	15978	3.4	22	-F		C	0508	50	.6		Y5
106 ABST	01	0521	0522	0525	S25	W19	.465	15968	29.8	4	-F		C	0522	79	.9	DJV	Y5
GRP74107	01	0540+1	0542+0	0555	S24	W19	.454	15968	29.8	15	-F						DJKV	
CULG	01	0540	0542	0556	S24	W20	.464	15968	29.7	16	-N		C	0542	20	.2		
ABST	01	0541	0542	0554	S25	W19	.465	15968	29.8	13	-F		C	0542	87	1.0	DJKV	
108 ABST	01	0545	0546	0549	N17	E25	.538	15974	3.1	4	-F		C	0546	96	1.1	DJV	Y5
GRP74109	01	0548+5	0555+1	0617	N10	E20	.414	15974	2.7	29	-N						FJ	
109 CULG	01	0548	0556	0615	N09	E20	.405	15974	2.7	27	-N		C	0556	80	.9		Y5
109 ABST	01	0553	0555	0618	N11	E20	.423	15974	2.7	25	1N		C	0555	262	3.0	FJ	Y5
GRP74110	01	0605+1	0607+5	0631	S24	W20	.464	15968	29.8	26	-F						DJK	
CULG	01	0605	0607	0645D	S24	W21	.474	15968	29.7	40D	-F		C	0607	30	.3	K	
ABST	01	0606	0612	0617	S25	W20	.475	15968	29.8	11	-N		C	0612	87	1.0	DJ	
GRP74111	01	0610+6	0618	0652	S30	E27	.592	0	3.3	42	1N				220	2.8	FIJKSW	
			0624+3															
CULG	01	0610	0627	0645D	S30	E27	.592	0	3.3	35D	1N		C	0627	220	2.8	SFKIW	
ABST	01	0616	0618	0632E	S28	E27	.574	0	3.3	16D	-F		P	0618	87	1.1	DJ	
ABST	01	0619E	0624	0652	S31	E26	.592	0	3.2	33D	1N		P	0624	227	2.9	DJ	
GRP74112	01	0625+2	0630	0652	N11	E20	.423	15974	2.8	27	-F						DJK	
			0641															
CULG	01	0625	0630	0645D	N11	E20	.423	15974	2.8	20D	-F		C	0630	20	.2		
ABST	01	0627	0641	0652	N11	E20	.423	15974	2.8	25	-N		C	0641	87	1.0	DJK	
113 ABST	01	0625	0633	0649	S23	E33	.602	15978	3.7	24	-F		C	0633	87	1.1	DJ	Y5
GRP74114	01	0654+9	0702	0738	S24	W20	.464	15968	29.8	44	-N						DJ	
ABST	01	0654	0702	0738	S25	W20	.475	15968	29.8	44	-N		C	0702	87	1.0	DJ	
CATA	01	0705	0710	0710D	S24	W21	.474	15968	29.7	5D	-N	2	P	0710	39	.4		
115 ABST	01	0714	0721	0742	S30	E21	.538	0	2.9	28	-F		C	0721	87	1.1	DJ	Y5
116 ABST	01	0736	0737	0742	N11	E19	.411	15974	2.7	6	-F		C	0737	87	1.0	DJV	Y5
117 ABST	01	0826	0844	0906	N18	W40	.710	15967	28.4	40	?N		C	0844	201	2.9	EJ	Y5
	IMP.1 NO 1 KIEV																	
118 ABST	01	0848	0852	0904	S26	W21	.495	15968	29.8	16	-N		C	0852	87	1.0	DJ	Y5
119 ABST	01	0914	0926	0929	N19	W40	.716	15967	28.4	15	-F		C	0926	87	1.3	DJK	Y5
	01	1035	1050	NO FLARE PATROL														
	01	1053	1225	NO FLARE PATROL														
	01	1230	1330	NO FLARE PATROL														
GRP74120	01	1353+0	1406+2	1417	N16	E10	.382	15974	2.3	24	-N				80	.9	E	
MCMA	01	1353	1408	1422D	N15	E10	.368	15974	2.3	29D	-N		C	1408	90	1.0	E	
RAMY	01	1353	1406	1412	N17	E10	.397	15974	2.3	19	-N	3	C		71			

Hα SOLAR FLARES

MAY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP74121	01	1407+0	1415 1428+3	1502	N18	W42	.731	15967	28.4	55	-B				50	.7	DK	
MCMA	01	1407	1431	1502D	N18	W43	.741	15967	28.4	55D	-B		C	1415	50	.7	DK	
MCMA	01	1407	1415	1502D	N18	W43	.741	15967	28.4	55D	-B							
BIGB	01	1425	1428	1503	N18	W42	.731	15967	28.5	38	-N	2	C	1428	60	.8		
RAMY	01	1428	1428	1432	N17	W37	.672	15967	28.8	4	-B	3	C		35			
122 BIGB	01	1509	1515	1636	N14	E17	.420	15974	2.9	87	-N	2	C	1515	20	.2	D	Y5
123 BIGB	01	1512	1530	1537	N18	W42	.731	15967	28.5	25	-N	2	C	1530	60	.8		Y5
124 BIGB	01	1810	1812	1819	N14	E06	.328	15974	2.2	9	-N	2	C	1812	20	.2	E	Y5
125 BIGB	01	1859	1900	1903	N17	W45	.757	15967	28.4	4	-N	2	C	1900	20	.3		Y5
GRP74126	01	1958>9	2033+7	2133D	N21	W48	.802	15967	28.2	95	1B							
BIGB	01	1958	2040	2133	N20	W47	.789	15967	28.3	95	2B	2	P	2040	390	5.9		
PALE	01	2024	2033U	2105D	N18	W46	.771	15967	28.4	41	1B	2	C		172		F	
BIGB	01	2030	2036	2133	N26	W58	.839	15967	28.1	63	-N	2	P	2036	50	.8		
MCMA	01	2052E		2055D	N20	W47	.789	15967	28.3	3D	1B		P	2053	150	2.5	E	
CULG	01	2134E	2134E	2337	N29	W58	.851	15967	28.1	123D	-N		P	2134	60	1.2		
127 MCMA	01	2052E		2155D	S30	W24	.564	15968	30.1	3D	-F		P	2053	40	.5	E	Y5
128 CULG	01	2337	2342	2350	S23	W31	.579	15968	29.7	13	-N		C	2342	10	.1		Y5
129 CULG	01	2337	2345	2359	N28	W08	.546	15971	1.4	22	-N		C	2345	10	.1		Y5
130 CULG	01	2356	2401	0009	N20	W48	.798	15967	28.4	13	-F		C	2401	30	.5	T	Y5
131 HOLL	01 IMP.1	2356 NO	2421 CULG	0049 VORO	N16 MANI	E20	.474	15974	3.5	53	?B	*	C		206		FDE	Y5
132 CULG	02	0015	0022	0051	S20	E16	.379	15978	3.2	36	-F		C	0022	60	.7	FG	Y5
133 CULG	02	0107	0113	0116	N21	E79	.988	15986	8.3	9	-N		C	0113	10		G	Y5
134 CULG	02	0257	0307	0315	N13	E14	.375	15974	3.2	18	-F		C	0307	30	.3		Y5
135 CULG	02	0341	0354	0412	S31	W22	.559	15968	30.5	31	-N		C	0354	100	1.2	L	Y5
136 CULG	02	0350	0353	0359	S23	W35	.626	15968	29.5	9	-F		C	0353	20	.2		Y5
137 CULG	02	0353	0409	0417	N19	W50	.812	15967	28.4	24	-F		C	0409	50	.9	T	Y5
138 CULG	02	0421	0427	0440	N11	E11	.320	15974	3.0	19	-F		C	0427	30	.3		Y5
GRP74139	02	0518+8	0529+3	0615	S26	E68	.930	15982	7.3	57	-N						FJ	
CULG	02	0518	0532	0612	S26	E67	.924	15982	7.2	54	-N		C	0532	60			
ABST	02	0526	0529	0535	S26	E70	.941	15982	7.5	9	1N		P	0529	201		FJ	
ABST	02	0559E	0559	0617	S26	E70	.941	15982	7.5	18D	-F		P	0559	87		DJ	
GRP74140	02	0526+2	0533+3	0541	N19	W53	.839	15967	28.3	15	-F				80	1.4	DJ	
CULG	02	0526	0533	0541	N19	W51	.821	15967	28.4	15	-F		C	0533	60	1.0	T	
ABST	02	0528	0533	0535D	N19	W55	.856	15967	28.1	7D	-N		P	0533	96	1.8	DJ	
141 ABST	02	0606	0617	0649	N20	W53	.842	15967	28.3	43	-F		C	0617	87	1.7	DJK	Y5
GRP74142	02	0609+4	0615+1	0627	S31	W25	.584	15968	30.4	18	-F				50	.6	DJ	
CULG	02	0609	0616	0625	S31	W25	.584	15968	30.4	16	-F		C	0616	30	.4		
ABST	02	0613	0615	0629	S31	W25	.584	15968	30.4	16	-F		C	0615	70	.9	DJ	
GRP74143	02	0612	0613+1 0621	0631	N13	E06	.311	15974	2.7	19	-F						JV	
ABST	02	0612	0613	0616	N12	E05	.290	15974	2.6	4	-F		C	0613	87	.9	DJV	
ABST	02	0613	0614	0624	N12	E09	.316	15974	2.9	11	-F		C	0614	87	.9	DJV	
ABST	02	0617	0621	0631	N15	E05	.337	15974	2.6	14	-F		C	0621	79	.9	DJ	
144 ABST	02	0641	0646	0649D	N15	E05	.337	15974	2.7	8D	-F		P	0646	140	1.5	EJ	Y5
GRP74145	02	0717>9	0719 0800	0816	N19	W53	.839	15967	28.3	59	-F						DJK	
ABST	02	0717	0719	0823	N19	W54	.847	15967	28.3	66	-F		C	0719	87	1.6	DJK	
KAND	02	0748	0800	0808	N19	W53	.839	15967	28.4	20	-N		C		62	1.2	D	
146 ABST	02	0728	0729	0731	N13	E13	.365	15974	3.3	3	-F		C	0729	87	1.0	DJV	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
147 KAND	02	0915	0921	0938	N10	E08	.279	15974	3.0	23	-N		C		94	1.0	E	Y5
148 CATA	02	0930	0940	0940D	N15	W05	.337	15974	2.0	10D	-N	2	P	0940	67	.7		Y5
149 KHAR	02	0948E		1000D	N13	E10	.338	15974	3.2	12D	-F		V	0950				Y5
	02	1000	1005	NO FLARE PATROL														
150 KHAR	02	1030E		1043D	N23	W53	.851	15967	28.5	13D	-F		P	1037	65	1.3		Y5
151 MONT	02	1150	1152	1207	N15	E01	.327	15974	2.6	17	-F		C	1152	50		E	Y5
GRP74152	02	1210+5	1212 1220+1	1237	N11	E08	.293	15974	3.1	27	1N				210	2.2	DH	
MONT	02	1210	1221	1227D	N11	E07	.286	15974	3.0	17D	1N		C	1221	250			
KHAR	02	1210E		1224D	N13	E10	.338	15974	3.3	14D	1F		P	1217			H	
LVOV	02	1218	1212	1233	N10	E08	.279	15974	3.1	23	1N		C	1212	200	2.2	D	
CATA	02	1215	1220	1240	N11	E08	.293	15974	3.1	25	-N	2	C	1220	168	1.8		
GRP74153	02	1246+0	1247+1	1257	N18	W52	.827	15967	28.6	11	-F				40	.7	E	
MONT	02	1246E	1247	1300	N19	W55	.856	15967	28.4	14D	-F		C	1247	58		E	
RAMY	02	1246	1247	1253	N17	W50	.806	15967	28.8	7	-N	3	C		33			
154 MONT	02	1248	1250	1301	S29	W32	.633	15968	30.1	13	-N		C	1250	70		E	Y5
155 RAMY	02	1309	1312	1317	N17	W51	.815	15967	28.7	8	-N	3	C		27			Y5
156 RAMY	02	1530	1533	1536	N17	W52	.824	15967	28.7	6	-N	3	C		78			Y5
GRP74157	02	1547+2	1555+0 1602	1617	N17	W55	.850	15967	28.5	30	1B				130	2.4	F	
BIGB	02	1547	1555	1617	N17	W57	.867	15967	28.4	30	1N	2	C	1555	120	2.2		
RAMY	02	1549	1555	1610	N17	W52	.824	15967	28.8	21	-B	3	C		137			
HOLL	02	1558E	1602U	1630D	N19	W55	.856	15967	28.5	32D	-B	2	C		90		F	
GRP74158	02	1649+3	1652	1708	S25	W35	.637	15968	30.1	19	-N							
HOLL	02	1649	1652	1702	S23	W36	.637	15968	30.0	13	-N	3	C		28			
BIGB	02	1652		1714	S27	W34	.639	15968	30.2	22	-N	1	C	1652	150	1.8		
GRP74159	02	1651	1659+3	1759	N20	W55	.858	15967	28.6	68	2B				460	8.7	UZ	
HOLL	02	1651	1659	1759	N23	W55	.867	15967	28.6	68	2B	3	C		390		UDE	
RAMY	02	1659E	1659	1800	N20	W54	.850	15967	28.7	61D	2B	3	C		546		Z F	
BIGB	02	1700E	1700	1759	N18	W55	.853	15967	28.6	59D	2N	2		1700	450	8.0		
GRP74160	02	1859+1	1903+1	1920	N20	W57	.874	15967	28.5	21	-N				40	.8		
MCMA	02	1859	1903	1920	N20	W58	.881	15967	28.4	21	-N		C	1903	50	1.1	E	
HOLL	02	1900	1904	1920	N20	W57	.874	15967	28.5	20	-B	3	C		33		F	
GRP74161	02	1925+0	1925+3	1932	N13	E02	.296	15974	3.0	7	-N							
HOLL	02	1925	1928	1934	N14	E01	.311	15974	2.9	9	-N	3	C		20		F	
MCMA	02	1925	1925	1930	N13	E03	.298	15974	3.0	5	-B		C	1925	40	.4	E	
BIGB	02	1925	1926	1926D	N13	E02	.296	15974	3.0	1D	-F	1		1926	100	1.0		
162 MCMA	02	1942	1945	1955	N20	W58	.881	15967	28.5	13	-F		C	1945	40	.9	E	Y5
163 MCMA	02	2041E		2057D	N20	W58	.881	15967	28.5	16D	-F		C	2045	40	.9	E	Y5
GRP74164	02	2251	2254	2312	N20	W52	.833	15967	29.1	21	-N						E	
CULG	02	2251	2254	2313	N21	W53	.845	15967	29.0	22	1N		C	2254	110	2.0		
VORO	02	2258E		2310	N20	W52	.833	15967	29.1	12D	-N		C	2258	81	1.4	CE	
GRP74165	02	2327+6	2333 2343	2358	N20	W60	.896	15967	28.5	31	-F						E	
CULG	02	2327	2352	0005	N20	W60	.896	15967	28.5	38	-F		C	2352	30	.6		
VORO	02	2333	2333	2336	N20	W60	.896	15967	28.5	3	-N		C	2333	27	.5	D	
VORO	02	2341	2343	2351	N20	W61	.903	15967	28.4	10	-N		C	2343	54		E	
GRP74166	03	0052+1	0057+3	0104	N20	W61	.903	15967	28.5	12	-N				40	.9	D	
CULG	03	0052	0057	0107	N21	W61	.904	15967	28.5	15	-N		C	0057	30	.7	T	
VORO	03	0053	0057	0101	N20	W61	.903	15967	28.5	8	-B		C	0057	45		D	
167 CULG	03	0110	0115	0130	N17	W17	.452	15974	1.8	20	-F	*	C	0115	30	.3		Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
GRP74168	03	0115>9	0132 0140+2	0153	N20	W61	.983	15967	28.5	38	-N				40	.9	DK	
CULG	03	0115	0142	0157	N21	W61	.984	15967	28.5	42	-N		C	0142	70	1.6	T	
VORO	03	0129	0132	0148	N20	W62	.989	15967	28.4	19	-N		C	0132	45		DK	
MANI	03	0138	0140	0147D	N19	W61	.981	15967	28.5	90	-N	3	C		30			
MANI	03	0141E	0141J	01480	N20	W61	.983	15967	28.5	70	-N	3	V		30			
GRP74169	03	0120+7	0129+4	0230	N10	W03	.247	15974	2.8	70	2N				540	5.5	FJV	
CULG	03	0046	0130	0317	N10	W03	.247	15974	2.8	151	2N	*	C	0130	750	7.8	V	
MITK	03	0120	0129	0220	N10	W03	.247	15974	2.8	60	1N	*	C	0129	480	4.3	EF	
VORO	03	0126	0133	0230	N09	W02	.227	15974	2.9	64	2F	*	C	0133	627	6.6	FJ	
MANI	03	0127	0130	0147D	N10	W04	.251	15974	2.8	200	1B	*	C		210		F	
MANI	03	0128E	0130	0148D	N12	W04	.284	15974	2.8	200	-B	*	C		180		F	
GRP74170	03	0151	0157+5 0217	0311	N19	W15	.459	15974	2.0	80	-N							
CULG	03	0151	0202	0311	N22	W18	.521	15974	1.7	88	-F		C	0202	40	.4		
CULG	03	0151	0157	0210	N17	W17	.452	15974	1.8	19	-N	*	C	0157	90	1.0		
CULG	03	0209	0217	0240	N18	W10	.408	15974	2.3	31	-N	*	C	0217	60	.7		
171 CULG	03	0241	0245	0252	N31	W41	.793	0	30.0	11	-F		C	0245	70	1.2	G	Y5
172 CULG	03	0313	0315	0321	S23	E51	.796	15982	7.0	8	-F		C	0315	20	.3		Y5
173 CULG	03	0327	0334	0347	N21	W62	.911	15967	28.5	20	-N		C	0334	40	.9	T	Y5
174 CULG	03	0333	0352	0407	S31	W30	.630	15968	30.9	34	-F		C	0352	20	.3		Y5
175 ABST	03 IMP.1	0501E NO	0504 MITK	0651 TACH	N19	W65	.927	15967	28.3	1100	?F		P	0504	96		DJ	Y5
176 CULG	03	0521E	0530	0540	N31	W42	.800	0	30.1	190	-F		C	0530	60	1.0	G	Y5
177 ABST	03	0613	0615	0620	N15	W03	.329	15974	3.0	7	-F		C	0615	87	.9	DJ	Y5
178 ABST	03	0657	0659	0702	N14	W04	.316	15974	3.0	5	-F		C	0659	87	.9	DJ	Y5
GRP74179	03	0701+4	0708	0721	N19	W67	.938	15967	28.3	20	-N						DJK	
ABST	03	0701	0708	0727	N19	W70	.954	15967	28.0	26	1N	*	C	0708	87		DJK	
ISTA	03	0705		0715	N19	W65	.927	15967	28.4	10	-N	*					D	
GRP74180	03	0702>9	0717+1	0730	S25	E90	1.000	15987	10.0	28	-N				50		AD	
HTPR	03	0702	0717	0730	S25	E90	1.000	15987	10.0	28	-F		C	0717	40		A	
ISTA	03	0710		0730	S25	E90	1.000	15987	10.0	20	-B						A	
ABST	03	0715	0718	0725	S28	E90	.999	15987	10.1	10	1N		C	0718	61		AD	
181 KHAR	03	0900E	0903	0915D	N17	E88	1.000	15990	10.0	150	-F		V	0902				Y5
182 KHAR	03	1232E		1239D	N13	W08	.322	15974	2.9	70	-F		P	1232				Y5
GRP74183	03	1406>9	1418+5	1450	S24	E52	.808	15982	7.5	44	-N							
HTPR	03	1406	1423	1450	S24	E52	.808	15982	7.5	44	-F		C	1423	40	.6	E	
BIGB	03	1418E	1418J	1512	S24	E53	.817	15982	7.6	540	-N	2	P	1418	70	1.2		
HOLL	03	1418	1418	1426	S25	E45	.744	15982	7.0	8	-N	3	C		17		F	
184 HUAN	03	1500	1502	1507	N18	W59	.884	15967	29.2	7	-N	1	C	1502	20	.4	E	Y5
185 RAMY	03	1720	1730	1735	N19	W70	.954	15967	28.5	15	-B	3	C		37			Y5
GRP74186	03	1738+0	1739+1	1745	S25	E47	.763	15982	7.3	7	-F				50	.8		
BIGB	03	1738	1739	1747	S25	E43	.723	15982	7.0	9	-N	2	C	1739	70	1.0		
HTPR	03	1738	1740	1742	S25	E51	.801	15982	7.6	4	-F		C	1740	40	.5		
187 RAMY	03	1811	1814	1816	N19	W70	.954	15967	28.5	5	-N	3	C		22			Y5
GRP74188	03	2002	2007+1	2039	N14	W19	.439	15974	2.4	37	-N							
BIGB	03	2002	2008	2021	N11	W17	.384	15974	2.6	19	-N	2	C	2008	50	.5		
BIGB	03	2003	2007	2039	N17	W21	.493	15974	2.3	36	-N	2	C	2007	40	.4		
189 BIGB	03	2043	2048	2057	N11	W07	.285	15974	3.3	14	-N	2	C	2048	50	.5		Y5
190 BIGB	03	2122	2137	2143	N10	W10	.295	15974	3.1	21	-N	2	C	2137	20	.2		Y5
191 BIGB	03	2244	2245	2302	N10	W10	.295	15974	3.2	18	-N	1	C	2245	30	.3		Y5
192 BIGB	04	0041	0043	0050	N17	W75	.974	15967	28.4	9	-F	2	C	0043	30			Y5
193 MITK	04	0237E		0258	N11	W10	.307	15974	3.4	210	-F		C	0237				Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	04	0432	0434	NO FLARE PATROL														
194 MITK	04	0410	0412	0420	N11	W17	.383	15974	2.9	10	-N		C	0412			E	Y5
SRP74195	04	0457E	0500 0505	0550D	N12	W15	.371	15974	3.1	53	?N						EJ	
	IMP.1 NO # TACH																	
ABST	04	0457E	0505	0550D	N11	W11	.317	15974	3.4	530	1N		P	0505	297	3.2	EJ	
ABST	04	0457E	0500	0514	N14	W16	.405	15974	3.0	170	-N		P	0500	87	1.0	DJ	
ABST	04	0457E	0505	0536	N11	W18	.395	15974	2.9	390	1N		P	0505	192	2.2	DJ	
GRP74196	04	0555+0	0556+1	0610	N13	W17	.405	15974	3.0	15	-N				58	.5	E	
KHAR	04	0555E	0556	0608D	N14	W17	.416	15974	3.0	130	-N		P	0556	58	.6		
HTPR	04	0555	0557	0610	N13	W18	.416	15974	2.9	15	-N		C	0557	58	.5	E	
GRP74197	04	0613E		0658	N14	W30	.569	15974	2.8	45	-F						EJ	
KAND	04	0613E		0648	N13	W30	.563	15974	2.8	350	-F		C		83	1.1	E	
KHAR	04	0617E		0627D	N15	W30	.584	15974	2.8	100	-F		P				D	
ABST	04	0621E	0621	0704D	N15	W28	.553	15974	2.2	430	1F		P	0621	253	3.1	BEJ	
ABST	04	0703E	0703	0708	N13	W21	.451	15974	2.7	50	-F		P	0703	52	.6	DJ	
GRP74198	04	0635E	0638 0655	0756D	N12	W13	.350	15974	3.3	81	-N						J	
ABST	04	0635E	0655	0756D	N11	W13	.337	15974	3.3	810	1N		P	0655	306	3.4	FJ	
KHAR	04	0636E	0638	0720D	N14	W13	.375	15974	3.3	440	-F		P				D	
199 KAND	04	0837		0844	N18	W85	.998	15967	28.0	7	-N		C					Y5
GRP74200	04	0839E	0848 0900+4	1004	N10	W16	.361	15974	3.2	85	-N						EHJ	
ABST	04	0839E	0848	1004D	N10	W15	.348	15974	3.2	850	-N		P	0848	114	1.3	DJ	
KHAR	04	0859E	0900	0914D	N11	W15	.360	15974	3.2	150	-F		P	0859			HT	
KAND	04	0900	0904	0917	N10	W14	.337	15974	3.3	17	-N		C		104	1.2	E	
KHAR	04	0930E	0930	0933D	N11	W19	.488	15974	3.0	30	-F		P				D	
ABST	04	0937E	0938	0958	N11	W18	.395	15974	3.1	210	-F		P	0938	87	1.0	DJ	
KHAR	04	0948E	0948	0958D	N11	W19	.408	15974	3.0	100	-F		P	0948			D	
KHAR	04	0953E	0956	1015D	N11	W14	.348	15974	3.4	220	-F		P	0956			HT	
201 KAND	04	0933	0937	0945	N18	W85	.998	15967	28.0	12	-N		C					Y5
GRP74202	04	1016>9	1024 1031+1	1047	N11	W14	.348	15974	3.4	31	-N				110	1.2	EH	
KANZ	04	1016	1024	1040	N13	W15	.383	15974	3.3	24	-N	2					F	
KAND	04	1024	1031	1047	N10	W14	.337	15974	3.4	23	-F		C		83	.9	E	
KHAR	04	1025E		1033D	N11	W16	.371	15974	3.2	50	-F		P	1025			EHT	
HONT	04	1029	1032	1049	N11	W13	.337	15974	3.5	20	-N		C	1032	150			
GRP74203	04	1110	1117	1129	N10	W15	.348	15974	3.3	19	-F							
KAND	04	1110	1117	1125	N10	W14	.337	15974	3.4	15	-F		C					
KHAR	04	1125E		1133D	N11	W16	.371	15974	3.3	80	-F		P				T	
204 KAND	04	1232	1221	1233	N10	W14	.337	15974	3.5	31	-F		C				E	Y5
205 KAND	04	1259	1302	1305	N17	W29	.580	15974	2.4	6	-N		C		52	.7	D	Y5
206 KAND	04	1328		1345D	N18	W85	.998	15967	28.2	250	-F		C					Y5
207 KANZ	04	1346	1357	1404	N18	W80	.990	15967	28.6	18	-N	2						Y5
208 KANZ	04	1404		1418	N22	E81	.993	15990	10.7	14	-F	2					D	Y5
GRP74209	04	1458+0	1459	1502	N21	E83	.996	15990	10.8	4	-F						E	
HUAN	04	1458	1459	1501	N21	E85	.998	15990	11.0	3	-F	1	C	1459	30		E	
KANZ	04	1458		1502	N22	E81	.993	15990	10.7	4	-F	2						
210 KANZ	04	1627	1631	1635	N08	W75	.969	0	29.1	8	-F	1						Y5
GRP74211	04	1738+8	1740 1747	1753	S24	E30	.577	15982	7.3	15	-F							
HTPR	04	1738	1740	1753	S25	E30	.584	15982	7.0	15	-F		C	1740	20	.2		
HOLL	04	1746	1747	1752	S24	E31	.588	15982	7.1	6	-N	3	C		32			
GRP74212	04	1940+1	1942+1	1952	N26	E64	.932	15990	9.6	12	-N				30		D	
HOLL	04	1940	1942	1952	N24	E62	.916	15990	9.5	12	-N	3	C		38			
HUAN	04	1941	1943	1952D	N29	E66	.947	15990	9.8	110	-N	1	P	1943	20		D	

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
213 HUAN	04	1947		1952D	N21	E78	.986	15990	10.7	50	-F	1	P				D	Y5
214 BIGB	04	2005	2018	2030	N11	W20	.420	15974	3.3	25	-F	3	C	2018	120	1.3		Y5
215 BIGB	04	2020	2023	2042	N21	W37	.694	15974	2.1	22	-F	3	C	2023	30	.4		Y5
GRP74216	04	2038+1	2034+1	2048	N25	E62	.918	15990	9.5	10	-N							
BIGB	04	2030	2034	2047	N25	E63	.924	15990	9.6	17	-F	3	C	2034	30	.7		
HOLL	04	2031	2035	2048	N25	E62	.918	15990	9.5	17	-B	3	C		80		DE	
GRP74217	04	2133+0	2134+1	2145	S29	E73	.958	15987	10.4	12	-N				60			
HOLL	04	2133	2135	2147	S31	E71	.950	15987	10.2	14	-B	3	C		79		DE	
BIGB	04	2133	2134	2143	S28	E75	.966	15987	10.5	10	-F	2	C	2134	50			
	05	0210	0219	NO FLARE PATROL														
218 KHAR	05	0625E	0627	0639D	N11	W27	.510	15974	3.2	140	-F		P					Y5
GRP74219	05	0625+0	0631+1	0655	N24	E58	.890	15990	9.6	30	-F						D	
KHAR	05	0625E	0632	0645D	N25	E60	.906	15990	9.8	20D	-F		P				D	
HTPR	05	0625	0631	0655	N24	E57	.883	15990	9.5	30	-F		C	0631	20	.3		
220 KHAR	05	0707E		0742D	N24	E59	.897	15990	9.7	35D	?F		P	0719	100	2.5		Y5
	IMP.1	NO 1 HTPR		KIEV	MITK	MANI												
GRP74221	05	0810+4	0821+1	0829	N09	E88	1.000	15992	11.9	19	-N						AH	
ISTA	05	0810		0825	N11	E90	1.000	15992	12.1	15	-B	7					A	
KAND	05	0814	0822	0829	N09	E87	.999	15992	11.9	15	-N		C					
KHAR	05	0814E	0821	0829D	N07	E88	1.000	15992	11.9	15D	-F		P	0815			H	
222 ISTA	05	0820		0845	N22	E70	.957	15990	10.6	25	-B						D	Y5
223 KHAR	05	0852E	0855	0913D	N22	E72	.965	15990	10.8	21D	-F		P					Y5
224 HTPR	05	1305	1306	1309	S24	E57	.852	15987	9.8	4	-F		C	1306	20	.4		Y5
225 RAMY	05	1532	1533	1534	N21	E65	.929	15990	10.5	2	-N	3	C		18			Y5
226 HOLL	05	1537	1540	1548	N22	E65	.930	15990	10.5	11	-N	3	C		12			Y5
GRP74227	05	1718+0	1719+2	1726	N25	E50	.833	15990	9.5	8	-N				20	.4		
RAMY	05	1718	1719	1723	N26	E50	.837	15990	9.5	5	-N	3	C		21			
HOLL	05	1718	1721	1729	N25	E50	.833	15990	9.5	11	-N	3	C		16			
GRP74228	05	1739+1	1740+1	1744	N16	W49	.792	15974	2.1	5	-N				30	.5		
HOLL	05	1739	1740	1756	N16	W50	.801	15974	2.0	17	-B	3	C		40		DE	
PALE	05	1740	1741	1744	N18	W49	.798	15974	2.1	4	-N	2	C		20		DE	
RAMY	05	1740	1740	1744	N16	W44	.741	15974	2.4	4	-N	3	C		27			
229 RAMY	05	1855	1857	1901	N21	E63	.917	15990	10.5	6	-N	3	C		20			Y5
230 BIGB	05	2013	2014	2023	N11	W47	.755	15974	2.3	10	-F	3	C	2014	20	.3		Y5
GRP74231	05	2029+0	2031+1	2044	N17	W52	.823	15974	2.0	15	-N						E	
HOLL	05	2029	2032	2043	N16	W52	.820	15974	2.3	14	-B	3	C		136		DE	
BIGB	05	2029	2031	2045	N17	W50	.804	15974	2.1	16	1N	3	C	2031	220	3.5		
HUAN	05	2035E		2044D	N17	W52	.823	15974	2.0	9D	-N	1	P	2035	60	1.1	CE	
GRP74232	05	2255+4	2305+1	2323	N24	E46	.795	15990	9.4	28	-N				60	1.0	F	
HOLL	05	2255	2306	2330	N23	E46	.791	15990	9.4	35	-B	3	C		73		F	
MANI	05	2259	2305	2315	N25	E46	.800	15990	9.4	16	-N	2	C		50			
233 KHAR	06	0855E	0855	0900D	N42	W85	1.000	15993	30.0	5D	-F		P	0858	50			Y5
234 KHAR	06	0920E		0922D	N15	W56	.853	15974	2.2	2D	-F		V	0921			D	Y5
GRP74235	06	0935E	0936	0953D	N14	W49	.785	15974	2.7	18	-F						DH	
KHAR	06	0935E	0936	0940D	N15	W51	.807	15974	2.6	5D	-F		P	0936			D	
KHAR	06	0942E		0953D	N13	W47	.761	15974	2.9	11D	-F		V	0942			CDH	
GRP74236	06	0945+8	0957+3	1008	S26	E08	.401	15982	7.0	23	-N				60	.7	E	
HTPR	06	0945	1000	1008	S26	E08	.401	15982	7.0	23	-F		C	1000	60	.7	E	
KANZ	06	0953	0957	1004	S26	E08	.401	15982	7.0	11	-N	3					E	
KHAR	06	0954E		1008D	S26	E05	.388	15982	6.8	14D	-N		P	1000	65	.7	E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX WEB. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP74237	05	1008E		1008D	N17	W56	.857	15974	2.2	8	-F						D
KHAR	05	1008E		1008D	N17	W54	.840	15974	2.4		-F		P	1000	35	.6	D
KHAR	05	1002E		1038D	N18	W58	.876	15974	2.1	60	-F		V	1003			
238 HTPR	06	1047	1050	1055	N25	E42	.764	15990	9.6	8	-F		C	1050	10	.1		Y5
GRP74239	06	1120+6	1122+4	1131	N24	E40	.740	15990	9.5	11	-F				20	.3	
KANZ	06	1120	1123	1131	N26	E40	.752	15990	9.5	11	-N	3					E
HTPR	06	1120	1124	1138	N25	E42	.764	15990	9.6	18	-F		C	1124	20	.3	
KHAR	06	1122E	1122	1129D	N24	E41	.749	15990	9.5	70	-F		P				D
RAMY	06	1126	1126	1130	N24	E40	.740	15990	9.5	4	-N	3	C		22		
240 KANZ	06	1142	1150	1154	N40	W90	1.001	15993	29.7	12	-N	3						Y5
241 RAMY	06	1148	1148	1155	N21	E54	.851	15990	10.5	7	-N	3	C		17			Y5
242 RAMY	06	1203	1205	1206	N21	E54	.851	15990	10.6	3	-N	3	C		16			Y5
243 KHAR	06	1242E		1245D	N13	W49	.782	15974	2.9	30	-F		P				D	Y5
244 KHAR	06	1309E	1309	1322D	N18	E49	.798	15990	10.2	130	-F		P				D	Y5
245 KHAR	06	1309E		1335D	N13	W49	.782	15974	2.9	260	-F		P				D	Y5
GRP74246	06	1505+2	1506+2	1511	N20	E54	.848	15990	10.7	6	-N				20	.4		
BIGB	06	1505	1506	1511	N20	E54	.848	15990	10.7	6	-N	2	C	1506	60	1.1		
HOLL	06	1506	1507	1511	N21	E53	.843	15990	10.6	5	-N	3	C		18			
HTPR	06	1507	1508	1514	N20	E54	.848	15990	10.7	7	-F		C	1508	20	.3		
GRP74247	06	1555+0	1556+5	1611	N12	W50	.789	15974	2.9	16	-B				40	.6	F	
HOLL	06	1555	1556	1611	N12	W50	.789	15974	2.9	16	-B	3	C		33		F	
RAMY	06	1555	1558	1659	N12	W49	.779	15974	3.0	64	-B	3	C		37			
BIGB	06	1555	1601	1609	N10	W50	.784	15974	2.9	14	-N	2	C	1601	100	1.6		
GRP74248	06	1614+2	1616+1	1631	N12	W48	.768	15974	3.1	17	-N				60	.9	E	
HOLL	06	1614	1616	1632	N12	W46	.747	15974	3.2	18	-B	3	C		68			
HTPR	06	1615	1616	1625	N12	W48	.768	15974	3.1	10	-F		C	1616	40	.6	E	
BIGB	06	1616	1617	1631	N11	W48	.766	15974	3.1	15	-N	2	C	1617	60	.9		
GRP74249	06	1639+1	1643+2	1658	N12	W48	.768	15974	3.1	19	-N				50	.8	D	
HOLL	06	1639	1644	1658	N12	W46	.747	15974	3.2	19	-B	3	C		61			
HTPR	06	1640	1645	1655	N12	W49	.779	15974	3.0	15	-F		C	1645	40	.6		
BIGB	06	1640	1643	1700	N11	W48	.766	15974	3.1	20	-N	2	C	1643	70	1.1		
MCMA	06	1644E		1654D	N12	W48	.768	15974	3.1	100	-N		P	1644	30	.5	D	
GRP74250	06	1644+7	1647+2 1655+7	1720	N21	E49	.809	15990	10.4	36	-N				80	1.3	E	
RAMY	06	1644	1647	1725	N21	E51	.826	15990	10.5	41	-N	3	C		30			
MCMA	06	1644E	1702	1729D	N21	E47	.791	15990	10.2	450	-N		C	1702	80	1.4	E	
HOLL	06	1645	1649	1708	N21	E51	.826	15990	10.5	23	-B	3	C		20			
HTPR	06	1650	1655	1710	N22	E50	.821	15990	10.5	20	-N		C	1655	20	.3	E	
BIGB	06	1651	1659	1725	N21	E47	.791	15990	10.2	34	-N	2	C	1659	80	1.2		
GRP74251	06	1746+2	1748+1	1801	N24	E37	.712	15990	9.5	15	-N				30	.4	D	
MCMA	06	1746	1749	1757D	N24	E36	.703	15990	9.4	110	-F		C	1749	30	.4	D	
HOLL	06	1748	1748	1801	N24	E37	.712	15990	9.5	13	-N	3	C		27			
RAMY	06	1748	1748	1800	N24	E37	.712	15990	9.5	12	-N	3	C		22			
252 RAMY	06	1859	1902	1906	N24	E36	.703	15990	9.5	7	-N	3	C		27			Y5
GRP74253	06	1929+9	1947 2013	2105	N22	E46	.786	15990	10.3	96	-N							
RAMY	06	1929	1947	2450D	N21	E50	.818	15990	10.6	810	-B	3	C		73		F	
HOLL	06	1948	2013	2019	N24	E35	.693	15990	9.5	31	-N	3	C		26		DE	
BIGB	06	2028E	2028	2120	N25	E46	.799	15990	10.3	520	-N	1	P	2028	50	.7		
BIGB	06	2031	2043	2128	N18	E46	.769	15990	10.3	57	-N	2	C	2043	130	1.9		
254 RAMY	06	2025	2028	2036	N12	W48	.768	15974	3.3	11	-N	3	C		25			Y5
255 BIGB	06	2045	2056	2115	N35	W90	1.001	15993	30.1	30	-N	2	C	2056	30			Y5
256 VORO	06	2206	2207	2215	N26	W90	1.000	15971	30.2	9	-N		C	2207	27		E	Y5
GRP74257	06	2229+1	2231+1	2240	N13	W56	.848	15974	2.7	11	-N				35	.7	D	
VORO	06	2229	2232	2243	N14	W56	.850	15974	2.7	11	-N		C	2232	45	.8	D	
BIGB	06	2230	2231	2249	N13	W56	.848	15974	2.7	18	-N	2	C	2231	20	.4		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg		
258 VORO	06	2312	2313	2320	N26	W60	.987	15976	2.5	8	-B		C	2313	45	1.0	D	Y5
GRP74259	06	2335+0	2336+4	2353	N24	E34	.684	15990	9.5	18	1B				200	2.7	E	
BIGB	06	2335	2336	2351	N24	E34	.684	15990	9.5	16	-B	2	C	2336	150	1.9		
HANI	06	2335	2340	2353	N24	E34	.684	15990	9.5	18	-B	3	C		140			
VORO	06	2335	2336	2353	N24	E33	.674	15990	9.5	18	1B		C	2336	242	3.3	E	
CULG	06	2336U	2336	0017	N24	E34	.684	15990	9.5	41D	1B		C	2336	260	3.6		
260 CULG	06	2337	2338	2343	N23	E52	.841	15990	10.9	6	-F		C	2338	40	.8		Y5
261 CULG	07	0044	0057	0112	N20	E65	.927	15994	11.9	28	-F		P	0057	20	.5		Y5
262 HTPR	07	0536	0539	0545	S33	E80	.984	15997	13.2	9	-F		C	0539	10	.2		Y5
263 KHAR	07	0800E		0810D	N43	W90	1.001	15993	30.6	10D	-N		P	0803			H	Y5
264 KHAR	07	0901E		0907D	S01	E67	.920	15995	12.4	6D	-F		V				D	Y5
GRP74265	07	0906	0914	0958	N26	W62	.919	15976	2.7	52	1N							
ZURI	07	0906	0914	0958	N26	W64	.931	15976	2.6	52	1N		C	0914	220			
KHAR	07	0924E	0924	0936D	N27	W61	.915	15976	2.8	12D	1F		V	0924				
GRP74266	07	0915+7	0923+3	0948	S33	E77	.975	15997	13.2	33	-N				30			
HTPR	07	0915	0923	1000	S33	E78	.978	15997	13.2	45	-N		C	0923	20	.4		
ZURI	07	0922	0926	0936	S33	E76	.972	15997	13.1	14	-N		C	0926	40			
267 RAMY	07	1102	1110	1119	N12	W56	.846	15974	3.3	17	-N	3	C		35			Y5
GRP74268	07	1130	1130	1140	S24	W90	1.000	15968	30.7	10	-F							
CATA	07	1130	1130	1140	S25	W90	1.000	15968	30.7	10	-F	2	C	1130	28			
CATA	07	1130	1130	1140	S23	W90	1.000	15968	30.7	10	-F	2	C	1130	28			
GRP74269	07	1231+1	1232+4	1245	N11	W59	.870	15974	3.1	14	-N				60	1.2	E	
MCMA	07	1231	1235	1246	N09	W59	.867	15974	3.1	15	-N		C	1235	60	1.2	E	
RAMY	07	1232	1232	1245	N13	W59	.873	15974	3.1	13	-N	3	C		53			
ZURI	07	1234E	1236	1242	N11	W58	.862	15974	3.2	8D	1F		P	1236	220	4.4		
GRP74270	07	1236+6	1242+4	1256D	N25	E26	.617	15990	9.5	20	-N				50	.6	D	
MCMA	07	1236	1242	1410	N26	E25	.619	15990	9.4	94	-N		C	1242	30	.4	D	
ZURI	07	1242	1246	1256	N25	E27	.626	15990	9.6	14	-N		C	1246	70	.9		
GRP74271	07	1324+1	1326+0	1331	N12	W59	.872	15974	3.1	7	-N							
ZURI	07	1324	1326	1328D	N11	W58	.862	15974	3.2	4D	1N		P	1326	180	3.6		
RAMY	07	1325	1326	1331	N13	W60	.881	15974	3.1	6	-N	3	C		55			
GRP74272	07	1436+2	1438+4	1445	N25	W69	.955	15976	2.4	9	-N				50		D	
MCMA	07	1436	1438	1445	N26	W70	.960	15976	2.4	9	-N		C	1438	25	1.0	D	
ZURI	07	1438	1442	1444	N26	W67	.946	15976	2.6	6	-N		C	1442	110			
HOLL	07	1440E	1442J	1503	N25	W68	.950	15976	2.5	23D	-N	1	C		70			
BIGB	07	1442E	1442	1445	N25	W70	.959	15976	2.4	3D	-N	1	P	1442	30			
GRP74273	07	1454+4	1500+2	1524	N24	E26	.608	15990	9.6	30	-B				35	.4		
MCMA	07	1454	1500	1550D	N26	E25	.619	15990	9.5	56D	-B		C	1500	20	.3	D	
BIGB	07	1455	1500	1500D	N25	E26	.617	15990	9.6	5D	-N	1	P	1500	40	.5		
ZURI	07	1456	1500	1510D	N25	E26	.617	15990	9.6	14D	-B		P	1500	150	2.0		
HTPR	07	1457		1514D	N24	E26	.608	15990	9.6	17D	-N		C	1500	30	.3	E	
HOLL	07	1458	1502	1524	N24	E25	.599	15990	9.5	26	-B	3	C		29			
RAMY	07	1458	1500	1518	N24	E26	.608	15990	9.6	20	-B	3	C		41			
274 BIGB	07	1651	1655	1708	N06	E69	.937	15995	12.9	17	-F	2	C	1655	30			Y5
275 BIGB	07	1744	1754	1829	S34	E62	.906	15997	12.4	45	-N	2	C	1754	20	.4	G	Y5
GRP74276	07	1835+4	1838+1	1848	N19	E34	.647	15990	10.3	13	-N				50	.7	E	
MCMA	07	1835	1838	1850	N19	E34	.647	15990	10.3	15	-N		C	1838	60	.8	E	
RAMY	07	1836	1839	1848	N18	E30	.596	15990	10.0	12	-N	3	C		49			
HOLL	07	1839	1839	1846	N21	E37	.692	15990	10.6	7	-N	3	C		42			
GRP74277	07	1935+2	1937+1	1945	N26	W68	.951	15976	2.7	10	-N				20		D	
RAMY	07	1935	1937	1941	N25	W67	.945	15976	2.8	6	-N	3	C		15			
MCMA	07	1936E	1938	1945	N26	W70	.960	15976	2.6	9D	-N		C	1938	25	1.0	D	
HOLL	07	1937	1938	1949	N26	W68	.951	15976	2.7	12	-N	3	C		14			
278 RAMY	07	1944	1945J	1945D	N19	E32	.626	15990	10.2	10	-B	3	C		31			Y5
	07	2143	2155	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR AREA Sq. Deg.		
279 CULG	07	2155E	2155E	2201	N28	W78	.988	15971	2.1	6D	-F		P	2155	20			Y5
288 CULG	07	2155E	2209	2216	N05	E65	.910	15995	12.8	21D	-F	*	P	2209	20	.5		Y5
GRP74281	08	0046	0048+3	0103	N24	E19	.546	15990	9.5	17	-B							
VORO	08	0046	0048	0102	N24	E19	.546	15990	9.5	16	-B		C	0048	143	1.7		
MANI	08	0050E	0051	0104	N24	E20	.554	15990	9.5	14D	-B	3	C		30			
282 ABST	08	0719	0722	0725	N16	E59	.879	15999	12.7	6	-F		C	0722	87	1.7	DJ	Y5
283 MONT	08	0818	0821	0832	N12	W70	.947	15974	3.1	14	-N		C	0821	70			Y5
284 MONT	08	0828	0829	0835	N05	E49	.762	15992	12.0	7	-N		C	0829	50			Y5
285 ZURI	08	0915	0919	0927	N12	W69	.941	15974	3.2	12	-N		C	0919	40			Y5
286 ZURI	08	1151	1205	1229	N06	E57	.845	15995	12.8	38	-F		C	1205	80	1.5		Y5
GRP74287	08	1321>9	1337+2	1353	N06	E56	.836	15995	12.8	29	-F				70	1.3	E	
MCMA	08	1321E	1337	1355D	N06	E56	.836	15995	12.8	34D	-N		C	1337	50	.9	E	
ZURI	08	1335	1339	1345	N06	E56	.836	15995	12.8	10	-F		C	1339	100	1.9		
GRP74288	08	1341>9	1358	1431	N20	E23	.538	15990	10.3	50	-N						E	
			1405															
MCMA	08	1341	1405	1448	N20	E21	.519	15990	10.1	67	-N	*	C	1405	100	1.2	E	
RAMY	08	1356	1358	1431	N21	E27	.588	15990	10.6	35	-N	*	C		52			
ZURI	08	1419	1423	1429	N19	E23	.528	15990	10.3	10	-F	*	C	1423	120	1.5		
289 MCMA	08	1342	1357	1412	S15	E68	.926	16001	13.7	30	-F		C	1357	60	1.6	E	Y5
GRP74290	08	1425+2	1427+2	1436	N14	W73	.963	15974	3.1	11	-N				35		DHV	
HTPR	08	1425	1427	1429	N14	W71	.954	15974	3.3	4	-F		C	1427	20			
MCMA	08	1426	1427	1435	N14	W77	.979	15974	2.8	9	-N		C	1427	30	1.6	DHV	
RAMY	08	1427	1428	1437	N14	W71	.954	15974	3.3	10	-B	3	C					
ZURI	08	1427	1429	1435	N12	W71	.952	15974	3.3	8	-N		C	1429	50			
HOLL	08	1428E	1428J	1441D	N15	W78	.983	15974	2.8	13D	-B	3	C		41			
GRP74291	08	1428>9	1443+2	1457	S15	E68	.926	16001	13.7	29	1N				100		EH	
MCMA	08	1415	1445	1454D	S15	E68	.926	16001	13.7	39D	1N	*	C	1445	80	2.2	EH	
HOLL	08	1428	1445	1457	S15	E68	.926	16001	13.7	29	-B	*	C		107			
HTPR	08	1437	1443	1500	S15	E68	.926	16001	13.7	23	-N	*	C	1443	90		E	
ZURI	08	1439	1445	1457	S14	E67	.920	16001	13.6	18	1N	*	C	1445	200			
292 RAMY	08	1456	1456	1458	N21	E26	.578	15990	10.6	2	-N	3	C		27			Y5
GRP74293	08	1459>9	1517+0	1522	N03	E50	.770	15995	12.4	23	-N				30	.5	E	
HOLL	08	1459	1517J	1521	N03	E50	.770	15995	12.4	22	-N	*	C		25		DE	
MCMA	08	1517	1517	1523	N03	E50	.770	15995	12.4	6	-N	*	C	1517	30	.5	E	
294 RAMY	08	1502	1503	1509	N14	W72	.959	15974	3.2	7	-N	3	C					Y5
295 HOLL	08	1519E	1519	1526	S15	E66	.913	16001	13.6	7D	-N	3	C		29			Y5
GRP74296	08	1546+9	1549+6	1600	N04	E52	.793	15995	12.6	14	-N				25	.4	E	
MCMA	08	1546	1552	1601	N07	E54	.818	15995	12.7	15	-N		C	1552	60	1.1	E	
HOLL	08	1549	1549	1603	N03	E50	.770	15995	12.4	14	-N	2	C		21			
HTPR	08	1549	1551	1558	N05	E56	.835	15995	12.9	9	-F		C	1551	20	.3		
RAMY	08	1555	1555	1557	N01	E47	.734	15995	12.2	2	-N	3	C		32			
297 MCMA	08	1751	1757	1808	S16	E67	.920	16001	13.8	17	-F		C	1757	40	1.0	E	Y5
298 MCMA	08	1751	1757	1806	N08	E38	.637	15992	11.6	15	-F		C	1757	40	.5	E	Y5
GRP74299	08	1846+3	1851+1	1915	S15	E66	.913	16001	13.7	29	1N				150		EH	
BIGB	08	1846	1852	1920	S13	E66	.912	16001	13.7	34	1N	2		1852	150	3.8		
HOLL	08	1848	1852	1910	S15	E64	.899	16001	13.6	22	1B	3	C		211			
MCMA	08	1849	1851	1901D	S16	E67	.920	16001	13.8	12D	-N		C	1851	50	1.3	EH	
300 CULG	08	2132	2134	2144	N12	W78	.982	15974	3.0	12	-F		C	2134	40		T	Y5
GRP74301	08	2216+2	2220+2	2230	N11	W76	.974	15974	3.2	14	-N				50			
CULG	08	2216	2222	2238	N12	W80	.988	15974	2.9	22	-N		P	2222	60		T	
BIGB	08	2217	2220	2230	N11	W76	.974	15974	3.2	13	-N	2		2220	50			
HOLL	08	2218	2220	2230	N11	W75	.970	15974	3.3	12	-N	3	C		30			
302 CULG	08	2248	2251	2255	N03	E47	.736	15995	12.5	7	-F		C	2251	30	.4		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP74303	08	2252+2	2300+3	2336	S21	E68	.929	16001	14.1	44	1F				110		H	
CULG	08	2252	2303	2340	S22	E68	.929	16001	14.1	48	1F		C	2303	80			
BIGB	08	2254	2300	2332	S21	E68	.929	16001	14.1	38	1N	2		2300	150		H	
304 CULG	08	2356	2357	0032D	S30	W79	.981	15973	3.1	36D	-F		P	2357	30		K	Y5
305 CULG	09	0027E	0027	0032	S17	E85	.995	16005	15.4	5D	-F		C	0027	40		C	Y5
306 CULG	09	0027	0031	0035D	S13	E63	.891	16001	13.7	8D	-F		P	0031	30	.7		Y5
307 CULG	09	0119	0122	0141	S10	E85	.995	16005	15.4	22	-N		P	0122	30			Y5
308 CULG	09	0202E	0205	0222	S13	E61	.875	16001	13.7	20D	-F		P	0205	40	.9	C	Y5
GRP74309	09	0231+0	0232+1	0242	S31	W79	.981	15973	3.2	11	-N				35		D	
CULG	09	0231	0233	0246	S30	W80	.984	15973	3.1	15	-N		C	0233	30			
VORO	09	0231	0232	0237	S33	W78	.979	15973	3.3	6	-N		C	0232	36		D	
GRP74310	09	0232+3	0237+0	0246	N10	E27	.500	15992	11.1	14	-N				40	.5	DH	
CULG	09	0232	0237	0250	N10	E28	.514	15992	11.2	18	-N		P	0237	30	.4	H	
VORO	09	0235	0237	0241	N10	E27	.500	15992	11.1	6	-N		C	0237	45	.5	D	
311 CULG	09	0347E	0347U	0355D	N33	E72	.974	16003	14.6	8D	-F		P	0347	50		G	Y5
GRP74312	09	0525	0528	0547	00	E42	.671	15995	12.4	22	1F						DJK	
ABST	09	0525	0528	0537	N01	E42	.672	15995	12.4	12	1F		C	0528	175	2.4	DJ	
CULG	09	0532E	0532	0557	S00	E43	.683	15995	12.5	25D	-N		P	0532	40	.5	K	
313 CULG	09	0552	0555	0604	S30	W81	.986	15973	3.2	12	-F		P	0555	20			Y5
314 ABST	09	0646	0647	0652	N06	E43	.694	15995	12.5	6	-N		C	0647	87	1.2	DJV	Y5
GRP74315	09	0722+6	0724 0731+8	0815D	N21	W23	.547	15986	7.6	53	-N				100	1.2	GHJK	
ABST	09	0722	0731	0855	N20	W24	.547	15986	7.5	93	1B		C	0731	358	4.1	FGJK	
ABST	09	0722	0724	0741	N23	W19	.533	15986	7.9	19	-N		C	0724	87	1.1	DGJ	
HTPR	09	0726	0732	0752	N22	W23	.558	15986	7.6	26	-N		C	0732	80	.9	E	
KANZ	09	0728	0739	0841	N20	W24	.547	15986	7.5	73	-B	3					FHK	
BERN	09	0731E	0735	0849	N17	W29	.575	15986	7.1	78D	1N		P					
KHAR	09	0737E	0737	0804D	N21	W24	.557	15986	7.5	27D	-F		P	0737	100	1.4	EH	
CATA	09	0745E	0745	0815D	N21	W23	.547	15986	7.6	30D	-N	2	P	0745	67	.8		
316 ABST	09	0807	0808	0812	N18	E10	.399	15990	10.1	5	-N		C	0808	96	1.1	DJV	Y5
GRP74317	09	0816+1	0820+1 0827	0839	N21	W23	.547	15986	7.6	23	-N						EG	
MONT	09	0816	0820	0858	N20	W24	.547	15986	7.5	42	-N	*	C	0820	180		G	
HTPR	09	0817	0821	0835	N22	W23	.558	15986	7.6	18	-N	*	C	0821	50	.6	E	
ZURI	09	0823E	0827	0839	N21	W23	.547	15986	7.6	16D	1F	*	P	0827	370	4.5		
318 KANZ	09	0817	0818	0822	N34	E67	.957	16003	14.4	5	-N	3					D	Y5
GRP74319	09	0818+0	0834+5 0845+0	0917	N21	E13	.461	15990	10.3	59	1N				270	3.0	HJ	
KANZ	09	0818	0845	0933	N21	E13	.461	15990	10.3	75	1N	3					F	
BERN	09	0818	0834	0940	N24	E08	.476	15990	9.9	82	1N		P					
ZURI	09	0823E	0837	0857	N22	E13	.475	15990	10.3	34D	2N		P	0837	630	7.3		
ABST	09	0827	0835	0903	N22	E13	.475	15990	10.3	36	1B		C	0835	297	3.4	FJ	
MONT	09	0828	0839	0927	N20	E15	.463	15990	10.5	59	1N		C	0839	250			
HTPR	09	0830	0837	0900	N21	E10	.442	15990	10.1	30	-N		C	0837	120	1.2	E	
CATA	09	0840E	0845	0900D	N21	E14	.469	15990	10.4	20D	-B	2	P	0845	168	1.9		
KHAR	09	0853E		0950D	N22	E13	.475	15990	10.3	60D	1F		P	0908	300	3.2	EHT	
320 MONT	09	0832	0842	0854	S31	W82	.989	15973	3.2	22	-F		C	0842	40		D	Y5
GRP74321	09	0834+3	0835+2	0845	N02	E41	.660	15995	12.4	11	-N				90	1.2	E	
MONT	09	0834	0836	0850	N01	E41	.659	15995	12.4	16	-N		C	0836	60		E	
ZURI	09	0835	0835	0841	N02	E41	.660	15995	12.4	6	-F		C	0835	130	1.8		
KANZ	09	0837	0837	0845	N03	E41	.662	15995	12.4	8	-N	3						
322 KHAR	09	0908E		0938D	S00	E40	.644	15995	12.4		-F		P	0908	150	1.8	E	Y5
323 KHAR	09	0908E		0938D	N15	W88	1.000	15974	2.8		-F	*	P				T	Y5
324 KHAR	09	0915E		0923D	S31	W87	.997	15973	2.9	8D	-F		V	0916			T	Y5
325 KHAR	09	0945E	0957	1012D	S31	W87	.997	15973	2.9	27D	-F		V	0957			T	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP74326	09	1805+3	1807+4	1815	N01	E40	.646	15995	12.4	13	-F				60	.8	E
ZURI	09	1805	1807	1813	N02	E40	.647	15995	12.4	8	-F		C	1807	80	1.1	
KANZ	09	1806	1810	1818	N03	E38	.623	15995	12.3	12	-F	3					D
KHAR	09	1807E	1811	1812D	S00	E40	.644	15995	12.4	50	-F		V	1808			E
MONT	09	1808	1810	1819	N01	E40	.646	15995	12.4	11	-F		C	1810	50		E
327 KHAR	09	1843E		1847D	N15	E88	1.000	0	16.0	4D	-F		V	1847			T Y5
GRP74328	09	1857+3	1105+3	1138	S16	E56	.833	16001	13.7	41	-N						E
KHAR	09	1857E	1105	1136D	S18	E57	.845	16001	13.7	39D	-F		P	1132			E
ZURI	09	1857	1107	1139	S16	E57	.842	16001	13.7	42	2N		C	1107	330	6.3	
KANZ	09	1859	1106	1122	S15	E55	.823	16001	13.6	23	-N	3					
MONT	09	1100	1108	1147	S17	E55	.825	16001	13.6	47	-N		C	1108	110		
GRP74329	09	1125+1	1138 1147	1241D	N21	E12	.455	15990	10.4	76	-F						EH
KHAR	09	1125E		1226D	N21	E10	.442	15990	10.2	61D	1F		P	1131			EHT
MONT	09	1126	1138	1210D	N20	E13	.448	15990	10.5	44D	-N		C	1138	180		
ZURI	09	1145	1147	1241	N22	E12	.468	15990	10.4	56	1F		C	1147	390	4.5	
MCMA	09	1231E		1315D	N22	E12	.468	15990	10.4	44D	-F		C	1231	50	.6	E
330 KHAR	09	1143E		1147D	S31	W87	.997	15973	3.0	4D	-F		V	1143			HT Y5
331 KHAR	09	1156E	1200	1228D	N14	W90	1.000	15974	2.7	24D	-N		P	1202			HT Y5
GRP74332	09	1205+1	1213+7	1312	N33	E74	.980	16003	15.1	67	1N						AF
KHAR	09	1205E	1216	1250D	N35	E80	.994	16003	15.5	45D	1N		P				
KANZ	09	1206	1216	1323	N35	E75	.984	16003	15.1	77	1B	3					F
KHAR	09	1213E	1213	1226D	N29	E70	.963	16003	14.8	130	1F		P				
CATA	09	1215	1220	1240	N32	E90	1.000	16003	16.3	25	2N	2	C	1220	281		A
MCMA	09	1231E		1332	N33	E69	.963	16003	14.7	61D	1N	*	C	1231	125	4.5	AEF
KHAR	09	1236E	1236	1300D	N38	E67	.962	16003	14.6	24D	1F	*	P				
GRP74333	09	1348+7	1354+8 1425	1451	N21	E10	.442	15990	10.3	63	-B				60	.7	FH
MCMA	09	1348	1359	1450D	N22	E12	.468	15990	10.5	62D	-B	*	C	1359	60	.7	EH
RAMY	09	1354E	1354J	1410D	N20	E11	.434	15990	10.4	16D	-B	*	C		57		F
HOLL	09	1355	1400	1452	N21	E08	.432	15990	10.2	57	-B	*	C		57		F
KANZ	09	1355	1402	1433	N21	E05	.420	15990	10.0	38	-N	*					
ZURI	09	1359E	1425	1457	N22	E10	.457	15990	10.3	58D	-N	*	P	1425	90	1.1	
334 HOLL	09	1351	1351	1415	N31	E66	.948	16003	14.5	24	-N	3	C		27		F Y5
GRP74335	09	1433+1	1439+2	1448	N13	W90	1.000	15974	2.9	15	-N						
KANZ	09	1433	1441	1449	N13	W90	1.000	15974	2.9	16	-N	2					
BIGB	09	1434	1439	1446	N14	W90	1.000	15974	2.9	12	-N	2	C	1439	60		
336 RAMY	09	1440	1441	1452	S04	E40	.642	0	12.6	12	-N	2	C		22		H Y5
GRP74337	09	1935+5	1942+1	2003	N21	E07	.427	15990	10.3	28	-N				45	.5	E
MCMA	09	1935	1943	1955	N22	E10	.457	15990	10.6	20	-N		C	1943	50	.6	E
HOLL	09	1940	1942	2010D	N21	E05	.420	15990	10.2	30D	-N	3	C		36		
338 MCMA	09	2006	2017	2048	N06	E22	.405	15992	11.5	42	-N		C	2017	40	.4	E Y5
GRP74339	09	2027+8	2028 2035	2046	N07	E36	.607	15995	12.6	19	-N						E
MCMA	09	2027	2028	2048	N07	E37	.620	15995	12.6	21	-N		C	2028	35	.5	E
RAMY	09	2035	2035	2043	N07	E36	.607	15995	12.6	8	-N	2	C		23		
	10	0209	0211	NO FLARE PATROL													
	10	0212	0217	NO FLARE PATROL													
340 CULG	10	0307E	0307J	0312D	N08	E15	.321	15992	11.3	5D	-N		P	0307	10	.1	Y5
GRP74341	10	0454+9	0628+4	0736	N07	E14	.298	15992	11.3	162	-N				20	.2	EJK
ABST	10	0454E	0632	0750	N07	E14	.298	15992	11.3	176D	-N		P	0632	87	.9	EJK
HTPR	10	0620	0628	0647	N07	E12	.272	15992	11.2	27	-F		C	0628	20	.2	E
CULG	10	0627E	0632	0652D	N07	E14	.298	15992	11.3	25D	-N		P	0632	20	.2	
KANZ	10	0716E	0745	0816	N07	E13	.285	15992	11.3	60D	-N	*					E
MEND	10	0720E	0744	0807	N07	E15	.311	15992	11.4	47D	-N	*	C		160	1.7	E
342 CULG	10	0628	0630	0637	N22	W08	.445	15990	9.7	9	-F		P	0630	10	.1	Y5
343 CULG	10	0629	0640	0652D	N06	E30	.520	15995	12.5	23D	-F		P	0640	10	.1	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP74344	10	0718+2	0725+8	0756	S33	E37	.715	15997	13.1	38	-N						G
ABST	10	0718	0725	07590	S33	E39	.732	15997	13.2	410	1N		P	0725	175	2.7	D
WEND	10	0720E	0730	0750	S32	E37	.708	15997	13.1	300	-N		C		90	1.4	G
KANZ	10	0720	0733	0753	S33	E37	.715	15997	13.1	33	-F	1					G
HTPR	10	0720	0726	0850	S33	E34	.689	15997	12.9	90	-N		C	0728	40	.5	E
GRP74345	10	0820+8	0835+0 0920+1	0941	N07	E14	.298	15992	11.4	81	-N				180	1.9	EJ
WEND	10	0820	0835	09030	N07	E14	.298	15992	11.4	400	-N		C		200	2.1	E
KANZ	10	0828	0835	0940	N07	E13	.285	15992	11.3	72	-N	2					E
ZURI	10	0847E	0921	0941	N07	E13	.285	15992	11.3	540	-F		P	0921	180	2.0	
ABST	10	0903E	0920	09250	N08	E14	.308	15992	11.4	220	-N		P	0920	175	1.9	EJ
MANI	10	0905E	0905J	09150	N07	E14	.298	15992	11.4	100	-N	2	C		60		F
346 KHAR	10	1015E		10300	N10	E24	.459	15995	12.2	150	-F		P				Y5
GRP74347	10	1033+4	1039+3 1123	1132	N07	E13	.285	15992	11.4	59	-F				100	1.0	H
KHAR	10	1033E	1039	11550	N07	E13	.285	15992	11.4	220	-N		P	1039	120	1.3	HT
KANZ	10	1034	1042	1132	N06	E13	.275	15992	11.4	58	-F	2					
ZURI	10	1037	1041	1047	N07	E12	.272	15992	11.3	10	-F		C	1041	80	.9	
KHAR	10	1110E	1123	11360	N07	E13	.285	15992	11.4	260	1F		P	1123	280	2.9	HT
348 KHAR	10	1120E		11280	N01	E26	.444	15995	12.4	80	-F		V	1120			Y5
349 KAND	10	1150	1220	1243	N07	E10	.247	15992	11.2	53	?F		C		208	2.2	E Y5
	IMP.1 NO 1 RAMY																
350 ZURI	10	1335	1347	1353	N07	E11	.259	15992	11.4	18	?F		C	1347	390	4.2	Y5
	IMP.1 NO 1 RAMY MCMA																
351 ZURI	10	1409	1410	14100	N22	W01	.427	15990	10.5	10	-F		P	1410	100	1.2	Y5
352 HTPR	10	1623	1625	1640	N16	E62	.900	16014	15.3	17	-F		C	1625	20	.4	E Y5
353 HOLL	10	1654	1654	1712	N21	W07	.426	15990	10.2	18	-N	3	C		37		Y5
GRP74354	10	1745+1	1746 1752+0	1807	N07	E08	.225	15992	11.3	22	-N				130	1.3	
BIGB	10	1745	1752	1807	N06	E07	.201	15992	11.3	22	-F	2	C	1752	110	1.1	
HOLL	10	1746	1746	1805	N07	E11	.259	15992	11.6	19	-B	3	C		39		FDE
RAMY	10	1750E	1752J	1834	N07	E08	.225	15992	11.3	440	-B	2	C		158		F
355 BIGB	10	1820	1825	1838	N05	E40	.653	16000	13.8	18	-F	2	C	1825	50	.7	G Y5
356 BIGB	10	1943	1944	2000	N13	E90	1.000	16010	17.6	17	-N	2	C	1944	20		Y5
GRP74357	10	1948+1	1950+0	1954	N07	E08	.225	15992	11.4	6	-N						F
BIGB	10	1948	1950	1953	N08	E07	.229	15992	11.4	5	-F	2	C	1950	120	1.2	
HOLL	10	1949	1950	1955	N07	E10	.247	15992	11.6	6	-B	3	C		49		F
GRP74358	10	2007+4	2011+1	2018	N06	E09	.223	15992	11.5	11	-B				40	.4	D
MCMA	10	2007E		20120	N06	E08	.212	15992	11.4	50	-B		P	2012	30	.3	D
BIGB	10	2009	2011	2017	N06	E09	.223	15992	11.5	8	-N	2	C	2011	30	.3	
HOLL	10	2011	2012	2019	N07	E10	.247	15992	11.6	8	-B	3	C		72		
359 HOLL	10	2044	2048	2058	N07	E09	.236	15992	11.5	14	-N	3	C		32		Y5
360 HOLL	10	2052	2055	2059	N21	W09	.435	15990	10.2	7	-N	3	C		34		Y5
GRP74361	10	2128+1	2130+0	2139	N05	E10	.224	15992	11.6	11	-F				40	.4	
HOLL	10	2128	2130	2139	N05	E11	.237	15992	11.7	11	-N	3	C		31		
BIGB	10	2129	2130	2138	N05	E10	.224	15992	11.6	9	-F	2	C	2130	50	.5	
GRP74362	10	2231+1	2233+3	2247	N20	W45	.765	15986	7.6	16	-N				60	.9	DG
BIGB	10	2231	2233	2247	N20	W46	.775	15986	7.5	16	-F	2	C	2233	40	.6	G
VORO	10	2232	2236	22420	N21	W45	.769	15986	7.6	100	-N		C	2236	90	1.4	DG
MANI	10	2244E	2244J	2247	N20	W45	.765	15986	7.6	30	-N	2	C		20		
GRP74363	10	2300+3	2303+2 2314	2322	N08	E05	.213	15992	11.3	22	-N				100	1.0	L
NITK	10	2300	2305	2322	N08	E05	.213	15992	11.3	22	-F		C	2305			E
BIGB	10	2301	2304	2357	N08	E05	.213	15992	11.3	56	-F	2	C	2304	80	.8	
VORO	10	2302	2303	2311	N08	E06	.220	15992	11.4	9	1N		C	2303	206	2.1	EL
MANI	10	2302	2304	2313	N07	E05	.198	15992	11.3	11	-B	3	C		90		F
HOLL	10	2303	2304	2320	N08	E06	.220	15992	11.4	17	-B	3	C		112		F
CULG	10	2310E	2314	2333	N08	E05	.213	15992	11.3	230	-N		P	2314	60	.6	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.	
GRP74364	11	0000+2	0002+1	0012	N08	E18	.360	15995	12.3	12	-N				96	1.0	DJ
CULG	11	0000	0002	0020D	N08	E18	.360	15995	12.4	20D	-N		P	0002	60	.7	
VORO	11	0002	0003	0004	N09	E19	.383	15995	12.4	2	-B		C	0003	116	1.2	DJ
GRP74365	11	0033+7	0042	0132	N21	W08	.428	15990	10.4	59	1N				250	2.8	EUY
			0057+2														
CULG	11	0033E	0127	0137D	N22	W08	.443	15990	10.4	64D	1N		P	0127	230	2.5	UY
BIGB	11	0038	0042	0049	N20	W08	.414	15990	10.4	11	-F	2	C	0042	30	.3	
VORO	11	0039	0059	0155	N22	W09	.448	15990	10.4	76	1N		C	0059	296	3.3	E
MITK	11	0040	0057	0133	N21	W09	.434	15990	10.4	53	1B		C	0057	210	2.4	E
MANI	11	0121E	0121U	0125D	N20	W06	.405	15990	10.6	4D	-N	3	C		60		F
365 MANI	11	0121E	0121J	0125D	N07	E04	.189	15992	11.4	4D	-N	3	C		20		Y5
	11	0258	0300	NO FLARE PATROL													
367 CULG	11	0356E	0358	0427	N23	W46	.787	15986	7.7	31D	-F		P	0358	40	.7	Y5
368 CULG	11	0452E	0502	0513	N36	E54	.897	16003	15.3	21D	-F		P	0502	10	.2	Y5
GRP74369	11	0526	0532	0734	N07	00	.176	15992	11.2	128	-F						FJK
			0538														
ABST	11	0526	0532	0535	N07	W02	.179	15992	11.1	9	-F		C	0532	52	.5	DJ
ABST	11	0533	0538	0734	N07	E01	.177	15992	11.3	121	-F		C	0538	183	1.9	FJK
GRP74370	11	0659+5	0710+5	0750	S26	W18	.503	15987	9.9	51	-F				90	1.0	E
			0721														
ABST	11	0659	0710	0737D	S26	W15	.480	15987	10.2	38D	-F		P	0710	87	1.0	D
ABST	11	0701	0715	0803D	S29	W22	.548	15987	9.6	62D	-F		P	0715	87	1.1	D
MITK	11	0704	0713	07340	S26	W18	.503	15987	9.9	30D	-F		C	0713			E
MANI	11	0720E	0721	0736	S30	W19	.535	15987	9.9	16D	-N	3	C		50		
371 ABST	11	0708	0711	0721	N15	E89	1.000	16010	18.0	13	?F		C	0711	61		D Y5
	IMP.1	NO	HTPR	HITK	KIEV												
GRP74372	11	0748+5	0756+1	0807	N06	E11	.247	15995	12.1	19	-N						E
KHAR	11	0748E		0800D	N06	E02	.162	15995	11.5	12D	-N		V	0748			T
ABST	11	0752E	0756	0803	N06	E15	.301	15995	12.5	11D	-N		P	0756	131	1.4	E
HTPR	11	0753	0757	0810	N05	E11	.236	15995	12.2	17	-F		C	0757	20	.2	E
KHAR	11	0755E		0800D	N07	E02	.179	15995	11.5	5D	-F	*	V	0756			T
373 KHAR	11	0835E		0840D	N06	E02	.162	15992	11.5	5D	-F		V	0835			DT Y5
GRP74374	11	0848	0853+2	0909	N06	E01	.160	15992	11.4	21	-F				120	1.2	EJ
MONT	11	0848	0853	0908	N08	W01	.194	15992	11.3	20	-N		C	0853	110		E
KHAR	11	0848E		0858D	N07	E01	.177	15992	11.4	10D	-N		P	0848	120	1.3	T
ABST	11	0851E	0855	0910D	N05	E03	.151	15992	11.6	19D	-F		P	0855	175	1.8	EJ
ABST	11	0851E	0854	0859	N07	W02	.179	15992	11.2	8D	-F		P	0854	140	1.5	EJ
KHAR	11	0855E		0900D	N04	E07	.173	15992	11.9	5D	-F		V	0855			ET
GRP74375	11	0935	0942+0	0953	N07	W01	.177	15992	11.3	18	-N				80	.8	J
MONT	11	0935	0942	0951	N08	W01	.194	15992	11.3	16	-N		C	0942	70		
ABST	11	0940E	0942	0954	N07	W02	.179	15992	11.3	14D	-N		P	0942	87	.9	DJ
KHAR	11	0940E		0950D	N07	W01	.177	15992	11.3	10D	-F		V	0943			ET
GRP74376	11	1038+9	1041	1122	N07	W01	.177	15992	11.4	44	-N						
			1058														
MONT	11	1038	1041	1130	N08	W02	.196	15992	11.3	52	-N		C	1041	110		
RAMY	11	1057	1058	1113	N07	W01	.177	15992	11.4	16	-N	3	C		48		
GRP74377	11	1050+7	1056+1	1111	S21	E09	.340	15996	12.1	21	-F				50	.5	E
MONT	11	1050	1056	1112	S21	E09	.340	15996	12.1	22	-F		C	1056	60		E
RAMY	11	1057	1057	1109	S22	E09	.355	15996	12.1	12	-N	3	C		42		
378 RAMY	11	1134	1135	1140	S23	E10	.376	15996	12.2	6	-N	3	C		21		Y5
379 MONT	11	1143	1150	1158D	N08	W02	.196	15992	11.3	15D	-N		C	1150	80		E Y5
GRP74380	11	1232	1234	1302	N07	W02	.179	15992	11.4	30	-N						E
			1248														
HTPR	11	1232	1234	1300	N08	W05	.211	15992	11.1	28	-N		C	1234	100	1.0	E
HOLL	11	1246E	1248	1304	N07	E01	.177	15992	11.6	18D	-N	3	C		90		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP74381	11	1359+0	1419 1424	1428	S16	E27	.493	16001	13.6	29	-F						
HUAN	11	1359		1419	S16	E27	.493	16001	13.6	20	-F	1	C	1407	15	.2	D
HOLL	11	1359	1424	1436	S18	E30	.544	16001	13.8	37	-N	3	C		31		F
MCMA	11	1402E		1455	S17	E28	.512	16001	13.7	530	-F		C	1402	80	.9	E
KANZ	11	1407E	1413	1416	S16	E27	.493	16001	13.6	110	-F	1					
GRP74382	11	1421+2	1424+2	1445	N03	00	.107	15992	11.6	24	-N				90	.9	EU
HUAN	11	1421		1426	N03	E00	.107	15992	11.6	5	-F	1	C				E
KANZ	11	1422	1426	1452	N03	E00	.107	15992	11.6	30	-N	1					
MCMA	11	1422	1426	1455	N05	E02	.146	15992	11.7	33	-N		C	1426	110	1.1	E
HOLL	11	1423	1424	1437	N03	E00	.107	15992	11.6	14	-B	3	C		74		U F
GRP74383	11	1423+4	1439	1458	N14	E76	.975	16010	17.3	35	-F						D
HOLL	11	1423	1439	1442	N14	E76	.975	16010	17.3	19	-F	3	C				
HUAN	11	1427		1458	N12	E78	.981	16010	17.5	31	-F	1	C	1441	15		D
RAMY	11	1441	1501	1536	N14	E75	.971	16010	17.2	55	-F	3	C		13		
GRP74384	11	1441+2	1443+2	1454	N08	W02	.196	15992	11.5	13	-N				90	.9	E
HUAN	11	1441		1445	N08	W03	.200	15992	11.4	4	-F	*	C				
BIGB	11	1442	1443	1452	N08	W02	.196	15992	11.5	10	-N	*	C	1443	90	1.0	
MCMA	11	1443	1445	1458	N08	W04	.205	15992	11.3	15	-N	*	C	1445	80	.8	E
HOLL	11	1443	1444	1455	N07	E00	.176	15992	11.6	12	-B	*	C		99		
GRP74385	11	1456+4	1459+1	1502	N23	W26	.594	15990	9.7	6	-F				25	.3	DH
KANZ	11	1456	1500J	1504	N23	W26	.594	15990	9.7	8	-N	2					
HUAN	11	1457		1500	N24	W26	.603	15990	9.7	3	-F	1	C				
BIGB	11	1458	1459	1500	N25	W25	.604	15990	9.7	2	-F	3	C	1459	20	.2	
MCMA	11	1500	1500	1506	N23	W26	.594	15990	9.7	6	-N		C	1500	30	.4	DH
GRP74386	11	1530+4	1534+2	1542	N08	W03	.200	15992	11.4	12	-N				50	.5	
HUAN	11	1530		1536	N08	W03	.200	15992	11.4	6	-F	1	C				
MCMA	11	1531	1536	1545	N08	W04	.205	15992	11.3	14	-N		C	1536	60	.6	E
BIGB	11	1533	1535	1540	N08	W04	.205	15992	11.3	7	-F	3	C	1535	30	.3	
RAMY	11	1534	1535	1541	N07	W03	.183	15992	11.4	7	-N	3	C		41		
HOLL	11	1534	1534	1545	N07	W01	.177	15992	11.6	11	-B	3	C		65		F
387 HOLL	11	1627	1628	1635	N21	W19	.507	15990	10.3	8	-N	3	C		27		Y5
GRP74388	11	1636+6	1642+8	1701	N21	W19	.507	15990	10.3	25	-N				40	.5	E
MCMA	11	1636	1650	1703	N21	W21	.526	15990	10.1	27	-N		C	1650	35	.4	E
BIGB	11	1641	1646	1700	N21	W17	.490	15990	10.4	19	-F	3	C	1646	40	.4	
HOLL	11	1642	1642	1701	N21	W19	.507	15990	10.3	19	-B	3	C		48		
389 BIGB	11	1643	1645	1652	N07	W05	.196	15992	11.3	9	-F	3	C	1645	30	.3	Y5
GRP74390	11	1741+1	1743+3	1756	N28	E35	.718	16003	14.4	15	-N				50	.7	E
MCMA	11	1741E	1743	1758	N29	E39	.758	16003	14.7	170	-N		C	1743	40	.6	E
HOLL	11	1742	1743	1754	N28	E32	.692	16003	14.1	12	-B	3	C		56		
GRP74391	11	1741+4	1745+6	1759	N21	W20	.516	15990	10.2	18	-F				45	.5	E
MCMA	11	1741E	1751	1805D	N21	W21	.526	15990	10.2	240	-F	*	C	1751	60	.7	E
HOLL	11	1745	1745	1752	N21	W20	.516	15990	10.2	7	-N	*	C		31		
392 HOLL	11	1744	1745	1747	N14	E76	.975	16010	17.4	3	-N	3	C		10		Y5
GRP74393	11	1801+2	1804+0	1812	N07	W03	.183	15992	11.5	11	-N				45	.5	E
MCMA	11	1801	1804	1813	N08	W05	.211	15992	11.4	12	-N		C	1804	50	.5	E
HOLL	11	1803	1804	1811	N07	W02	.179	15992	11.6	8	-N	3	C		44		
394 MCMA	11	1818		1819D	N21	W22	.535	15990	10.1	10	-F		P	1818	30	.4	D Y5
GRP74395	11	1834+3	1838	1849	N07	W06	.204	15992	11.3	15	-B				50	.5	
MCMA	11	1834E		1836D	N08	W10	.258	15992	11.0	20	-F		P	1834	50	.5	E
HOLL	11	1837	1838	1849	N07	W03	.183	15992	11.6	12	-B	3	C		56		F
396 BIGB	11	2031	2039	2049	N16	E55	.845	16014	16.0	18	-F	3	C	2039	40	.7	Y5
GRP74397	11	2121+1	2122+2	2141	N10	W07	.257	15992	11.4	20	-N				40	.4	K
CULG	11	2121	2123	2141	N10	W07	.257	15992	11.4	20	-N		C	2123	40	.4	
VORO	11	2121	2124	2145	N10	W08	.265	15992	11.3	24	1F		C	2124	242	2.5	EK
HOLL	11	2122	2122	2138	N07	W04	.189	15992	11.6	16	-B	3	C		27		F
GRP74398	11	2129+1	2130+1	2136	N12	E74	.966	16010	17.4	7	-F				25		
CULG	11	2129	2130	2133	N13	E76	.975	16010	17.6	4	-F		C	2130	30		
HOLL	11	2130	2131	2139	N12	E73	.962	16010	17.4	9	-N	3	C		15		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.		
GRP74399	11	2219+4	2224+2	2245	N08	W09	.247	15992	11.3	26	-N				50	.5		
CULG	11	2219	2224	2245	N08	W09	.247	15992	11.3	26	-N		C	2224	50	.5		
HOLL	11	2222	2226	2238	N07	W05	.196	15992	11.6	16	-B	3	C		49		F	
VORO	11	2223	2226	2255	N08	W10	.258	15992	11.2	32	1N		C	2226	287	3.8	E	
480 CULG	11	2353	2355	0005	S30	E31	.640	16004	14.3	12	-N		C	2355	20	.3		Y5
481 CULG	12	0030	0033	0042	N15	W52	.814	15989	8.1	12	-F		C	0033	20	.3		Y5
GRP74402	12	0030>9	0051+8	0107	N07	W08	.222	15992	11.4	37	-N				60	.6		
CULG	12	0030	0051	0109	N08	W10	.257	15992	11.3	39	-N	*	C	0051	90	.9	T	
HOLL	12	0047	0051	0105	N07	W06	.202	15992	11.6	18	-B	*	C		39			
483 CULG	12	0040	0046	0130	N14	W72	.958	0	6.6	50	-F		C	0046	20		G	Y5
GRP74404	12	0045+1	0046+0	0100	N16	E24	.586	15999	13.8	15	-N						D	
CULG	12	0045	0046	0106	N16	E25	.518	15999	13.9	21	-B		C	0046	50	.6		
VORO	12	0046	0046	0053	N17	E23	.504	15999	13.8	7	-N		C	0046	125	1.4	D	
GRP74405	12	0108+7	0111 0119+1	0139	N08	W10	.257	15992	11.3	31	-B				100	1.0	E	
MITK	12	0108	0111	0118	N08	W08	.235	15992	11.4	10	-B	*	C	0111			E	
CULG	12	0113	0119	0145	N08	W10	.257	15992	11.3	32	-N	*	C	0119	70	.7	T	
VORO	12	0115	0120	0139	N09	W11	.280	15992	11.2	24	-B	*	C	0120	125	1.3	E	
486 CULG	12	0123	0125	0144	N26	E50	.833	16007	15.8	21	-N		C	0125	30	.4	F	Y5
487 CULG	12	0134	0245	0640	N38	E21	.624	16003	13.6	306	?N		C	0245	270	3.4	KFIS	Y5
	IMP.1 NO 1 VORO MITK																	
GRP74408	12	0153+1	0155+0	0202	N16	E51	.808	16014	15.9	9	-F				60	1.0		
CULG	12	0153	0155	0202	N15	E52	.814	16014	16.0	9	-N		C	0155	40	.5	TF	
VORO	12	0154	0155	0202	N17	E51	.811	16014	15.9	8	-F		C	0155	81	1.4	E	
489 CULG	12	0203	0232	0324	N22	W22	.545	15990	10.4	81	-F		C	0232	20	.3	K	Y5
GRP74410	12	0207+1	0209+2	0221	N08	W09	.246	15992	11.4	14	-B						E	
CULG	12	0207	0209	0224	N08	W10	.257	15992	11.3	17	-B		C	0209	90	.9	T	
VORO	12	0208	0211	0217	N09	W09	.259	15992	11.4	9	1N		C	0211	287	3.8	E	
411 CULG	12	0226	0238	0244	N16	W54	.835	15989	8.1	18	-F		C	0238	10	.1	KF	Y5
412 CULG	12	0324	0406	0430	S33	E13	.535	15997	13.1	66	-N		C	0406	90	1.1	FL	Y5
413 CULG	12	0325	0330	0420	N13	W72	.957	0	6.7	55	-F		C	0330	20		G	Y5
414 CULG	12	0333	0351	0437	S22	E36	.639	16005	14.8	64	-N		C	0351	40	.5	FS	Y5
415 CULG	12	0404	0412	0451	N08	W12	.280	15992	11.3	47	-F		C	0412	50	.5	KT	Y5
416 CULG	12	0448	0453	0459	S25	W36	.656	15987	9.5	11	-F		C	0453	20	.3		Y5
417 ABST	12	0502	0504	0508	N08	W13	.293	15992	11.2	6	-N		C	0504	87	.9	DJ	Y5
418 CULG	12	0524	0531	0558	N10	E76	.973	16010	17.9	34	-F		C	0531	20			Y5
GRP74419	12	0530+1	0537+0	0553	N08	W12	.280	15992	11.3	23	-N						EJ	
CULG	12	0530	0537	0601	N08	W12	.280	15992	11.3	31	-F		C	0537	50	.5	T	
ABST	12	0531	0537	0545	N08	W13	.293	15992	11.3	14	1N		C	0537	262	2.8	EJ	
GRP74420	12	0547+1	0550+0	0602	S20	W02	.294	15996	12.1	15	-N						EJ	
ABST	12	0547	0550	0600	S20	W02	.294	15996	12.1	13	-N		C	0550	131	1.5	EJ	
CULG	12	0548	0550	0604	S20	W02	.294	15996	12.1	16	-N		C	0550	40	.4		
421 CULG	12	0600	0606	0609D	N23	W24	.574	15990	10.5	90	-F		P	0606	20	.3		Y5
GRP74422	12	0634>9	0640 0655+2	0700	N07	W10	.244	15992	11.5	26	-N						EJ	
ABST	12	0634	0643	0700	N04	W10	.212	15992	11.5	26	-F	*	C	0640	131	1.4	EJ	
CULG	12	0652	0655	0658D	N09	W11	.280	15992	11.5	6D	-N	*	C	0655	20	.2	T	
ABST	12	0654	0657	0700	N05	W07	.185	15992	11.8	6	-N	*	C	0657	87	.9	DJ	
423 ABST	12	0639	0644	0710	N14	E69	.942	16010	17.5	31	?N		C	0644	174		DJ	Y5
	IMP.1 NO 1 MITK KIEV CULG CATA																	
	12	0800	0803	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
424 MONT	12	0901E	0901	0922	N08	W16	.332	15992	11.2	210	-F		C	0901	50			Y5
425 MONT	12	0936	0939	0951	N08	W16	.332	15992	11.2	15	-N		C	0939	70		E	Y5
GRP74426	12	1201+2	1202+6	1213	N09	W16	.342	15992	11.3	12	-F							
HTPR	12	1201	1202	1205	N08	W17	.346	15992	11.2	4	-F		C	1202	20	.2	E	
LVOV	12	1203	1208	1221	N10	W15	.339	15992	11.4	18	1F		C	1208	200	2.3	D	
427 HTPR	12	1303	1306	1313	N08	W17	.346	15992	11.3	10	-F		C	1306	30	.3	E	Y5
GRP74428	12	1326+4	1329+1	1342	N07	W16	.323	15992	11.4	16	-N				40	.4		
HTPR	12	1326	1329	1342	N08	W18	.359	15992	11.2	16	-F		C	1329	40	.4	E	
RAMY	12	1328	1329	1339	N07	W16	.323	15992	11.4	11	-B	3	C		25			
HOLL	12	1330	1330	1344	N07	W13	.282	15992	11.6	14	-B	3	C		48		F	
GRP74429	12	1330+1	1331+1	1340	S21	W07	.329	15996	12.0	10	-F				30	.3	E	
HTPR	12	1330	1331	1340	S20	W09	.327	15996	11.9	10	-F		C	1331	20	.2	E	
HOLL	12	1331	1332	1340	S22	W06	.340	15996	12.1	9	-N	3	C		39			
430 HOLL	12	1412	1419	1438	N21	W31	.625	15990	10.3	26	-N	3	C		51			Y5
431 HOLL	12	1506	1506	1513	N07	W14	.296	15992	11.6	7	-N	3	C		22			Y5
432 HOLL	12	1538	1539	1557	N21	W32	.636	15990	10.3	19	-B	3	C		27		F	Y5
GRP74433	12	1616+3	1620+1	1635	S22	W09	.357	15996	12.0	19	-B							
RAMY	12	1616	1621	1639D	S22	W08	.350	15996	12.1	230	-B	3	C		29		F	
HOLL	12	1617	1621	1635	S22	W09	.357	15996	12.0	18	-B	3	C		102		FDE	
BIGB	12	1619	1620	1631	S22	W09	.357	15996	12.0	12	-N	3	C	1620	40	.4		
BIGB	12	1620	1621	1626	S27	W19	.501	15996	11.3	6	-F	3	C	1621	20	.2		
434 HUAN	12	1720		1726	N23	E90	1.000	16012	19.5	6	-F	1	C				D	Y5
GRP74435	12	1837+8	1845+2	1856	N17	E40	.698	16014	15.8	19	-F							
BIGB	12	1837	1845	1901	N18	E40	.703	16014	15.8	24	-F	3	C	1845	70	.9		
HOLL	12	1845	1847	1851	N15	E38	.665	16014	15.6	6	-N	3	C		24			
HUAN	12	1845		1848D	N17	E40	.698	16014	15.8	30	-F	1	P					
436 BIGB	12	1951	1956	2013	S27	W70	.945	15982	7.6	22	-F	3	C	1956	80		G	Y5
437 HOLL	12	2148	2149	2156	N11	E57	.852	16010	17.2	8	-N	3	C		19			Y5
GRP74438	12	2151+1	2152+1	2204	N16	E38	.670	16014	15.8	13	-N				45	.6	F	
BIGB	12	2151	2153	2203	N17	E40	.698	16014	15.9	12	-N	3	C	2153	50	.7		
HOLL	12	2152	2152	2205	N15	E37	.654	16014	15.7	13	-N	2	C		36		F	
GRP74439	12	2224E	2225+3	2231	S21	W12	.366	15996	12.0	7	-N				30	.3		
CULG	12	2224E	2225	2231	S21	W14	.384	15996	11.9	70	-N		P	2225	30	.3	T	
HOLL	12	2225E	2225	2230	S22	W11	.371	15996	12.1	50	-N	2	C		31			
GRP74440	12	2230	2254	2300	N25	E90	1.000	16012	19.7	30	-N						DH	
BIGB	12	2230	2254	2258	N25	E90	1.000	16012	19.7	28	-B	3	C	2254	50			
VORO	12	2235E		2302	N26	E90	1.000	16012	19.7	270	-F		C	2235	27		DH	
441 HOLL	13	0033	0034	0041	N07	W19	.365	15992	11.6	8	-N	3	C		27		F	Y5
442 CULG	13	0043	0047	0100	S23	W15	.419	15996	11.9	17	-F		C	0047	30	.3		Y5
443 CULG	13	0045	0057	0142	N34	W27	.705	15991	11.0	57	-F		C	0057	20	.2		Y5
GRP74444	13	0135+3	0137+1	0148	N04	W19	.345	15992	11.6	13	-N				80	.9	D	
CULG	13	0135	0137	0152	N04	W19	.345	15992	11.6	17	-N		C	0137	60	.6		
VORO	13	0138	0138	0144	N05	W20	.366	15992	11.6	6	-N		C	0138	99	1.0	D	
445 VORO	13	0225	0232	0245	N19	W38	.686	15990	10.3	20	-N		C	0232	36	.4	D	Y5
GRP74446	13	0225+2	0227+4	0237	S22	W14	.398	15996	12.1	12	-N				90	1.0		
CULG	13	0225	0227	0244D	S22	W14	.398	15996	12.1	190	-N	*	P	0227	90	1.0		
VORO	13	0226	0231	0237	S22	W15	.407	15996	12.0	11	-N	*	C	0231	116	1.2	E	
PALE	13	0227	0228	0236	S21	W12	.367	15996	12.2	9	-B	*	C		65		F	
	13	0609	0615	NO FLARE PATROL														
	13	0617	0643	NO FLARE PATROL														
	13	0840	0845	NO FLARE PATROL														
447 KAND	13	0901	0903	0923	N04	W22	.391	15992	11.7	22	-F		C		62	.7	E	Y5

Hα SOLAR FLARES

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.	
	13	0938	1202	NO FLARE PATROL													
448 BIGB	13	1437	1443	1452	N17	E27	.549	16014	15.6	15	-F	3	C	1443	26	.2	Y5
449 MCMA	13	1501E		1511D	N16	E00	.324	15999	13.6	100	-N		C	1503	50	.5	E Y5
GRP74450	13	1501+1	1503+0	1511	N16	E26	.529	16014	15.6	10	-F				35	.4	D
MCMA	13	1501E	1503	1511D	N16	E26	.529	16014	15.6	100	-F		C	1503	35	.4	D
BIGB	13	1502	1503	1511	N16	E26	.529	16014	15.6	9	-N	3	C	1503	30	.3	
451 BIGB	13	1554	1555	1604	N09	W31	.546	15992	11.3	10	-N	3	C	1555	40	.5	Y5
452 HUAN	13	1611		1620	N31	E05	.563	16003	14.0	9	-F	1	C	1615	20	.2	D Y5
453 BIGB	13	1618	1623	1630	N16	E25	.517	16014	15.6	12	-F	3	C	1623	28	.2	Y5
454 MCMA	13	1640E		16520	N17	E03	.344	15999	13.9	120	-F		C	1642	30	.3	E Y5
GRP74455	13	1805+2	1810 1817	1825	N15	E24	.496	16014	15.6	20	-F						
HOLL	13	1805	1817	1821	N15	E25	.508	16014	15.6	16	-N	3	C		23		F
MCMA	13	1807	1810	1828	N16	E24	.505	16014	15.6	21	-F		C	1810	40	.5	E
GRP74456	13	1816+0	1816+1	1822	N15	00	.308	15999	13.8	6	-F				35	.4	D
MCMA	13	1816	1817	1822	N15	W03	.312	15999	13.5	6	-F		C	1817	35	.4	D
HOLL	13	1816	1816	1821	N15	E02	.309	15999	13.9	5	-N	3	C		32		
GRP74457	13	1840+4	1851+1	1901	N19	W49	.798	15990	10.1	21	-N				50	.8	
MCMA	13	1840	1851	1858D	N19	W49	.798	15990	10.1	180	-F		C	1851	60	1.0	E
BIGB	13	1841	1852	1915	N20	W48	.792	15990	10.2	34	-N	3	C	1852	78	1.1	E
HUAN	13	1844		1855	N19	W50	.807	15990	10.0	11	-F	1	C	1846	30	.5	
HOLL	13	1844	1852	1906	N18	W50	.804	15990	10.0	22	-B	3	C		88		F
PALE	13	1852	1852J	1859	N20	W49	.801	15990	10.1	7	-N	2	C		26		FDE
458 HUAN	13	1856		1904	N25	E75	.977	16012	19.4	8	-F	1	C				Y5
459 BIGB	13	1946	1948	2006	N27	E76	.981	16012	19.5	20	-B	3	C	1948	80		Y5
460 HOLL	13	1946	1949	1953	N15	E01	.308	15999	13.9	7	-N	3	C		27		Y5
461 HOLL	13	2033	2034	2043	N18	W56	.804	15990	10.1	10	-N	3	C		22		F Y5
462 BIGB	13	2040	2053	20530	N23	E70	.956	16012	19.1	130	-N	3	P	2053	20		Y5
GRP74463	13	2057+1	2100+5	2114	N15	E23	.484	16014	15.6	17	-N				30	.3	
BIGB	13	2057	2105	2105D	N15	E23	.484	16014	15.6	80	-N	3	P	2105	20	.2	E
HOLL	13	2058	2100	2114	N15	E23	.484	16014	15.6	16	-B	3	C		37		F
464 HOLL	13	2230	2234	2249	N19	W52	.825	15990	10.0	19	-N	3	C		23		Y5
465 HOLL	14	0003	0003	0009	N19	W51	.816	15990	10.2	6	-N	3	C		24		Y5
GRP74466	14	0005+2	0006+1	0016	N15	E23	.483	16014	15.7	11	1B				230	2.6	U
BIGB	14	0005	0006	0016	N16	E23	.492	16014	15.7	11	-B	3	C	0006	80	.9	
HOLL	14	0006	0007	0048	N15	E21	.460	16014	15.6	42	1B	3	C		227		U F
PALE	14	0007	0007	0015	N14	E25	.499	16014	15.9	8	1B	3	C		265		FDE
467 HOLL	14	0052	0053	0105	N15	W02	.308	15999	13.9	13	-N	3	C		29		Y5
468 CULG	14	0148E	0206J	0226	N18	W50	.803	15990	10.3	380	-F		P	0206	50	.8	Y5
469 CULG	14	0154	0205	0220	S20	W28	.534	15996	12.0	26	-N		P	0205	70	.9	Y5
470 CULG	14	0240	0242	0251	S35	W10	.552	15997	13.4	11	-N		P	0242	80	1.0	Y5
471 CULG	14	0251	0255	0310	N25	W42	.758	15990	11.0	19	-N		C	0255	80	1.2	Y5
472 CULG	14	0255	0258	0308	S15	W12	.292	16001	13.2	13	-F		C	0258	30	.3	Y5
473 CULG	14	0328	0331	0334D	S23	W56	.846	15987	9.9	60	-N		P	0331	50	1.0	Y5
GRP74474	14	0805	0809	0858	N06	W36	.602	15992	11.6	53	1N						E
KANZ	14	0805	0809	0858	N04	W33	.554	15992	11.9	53	-N	2					
ZURI	14	0824E	0824	0858	N06	W36	.602	15992	11.7	340	1F		P	0824	180	2.4	
KHAR	14	0855E		0920D	N06	W36	.602	15992	11.7	250	1F		V				E
475 KHAR	14	0855E		0920D	N37	E23	.709	16018	16.1	250	-F		V				DH Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
476 KHAR	14	0925E		0932D	S31	E18	.544	16017	15.7	70	-F		P	0931			T	Y5
GRP74477	14	0932+2	0936+2 0945+1	1008	N25	E65	.932	16012	19.3	36	1N						EH	
KHAR	14	0932E	0938	1030D	N25	E69	.953	16012	19.6	58D	1B		P	0938	400		EH	
BERN	14	0933	0945	1005	N25	E65	.932	16012	19.3	32	1F		P					
ZURI	14	0934	0936	1004	N23	E65	.929	16012	19.3	30	1B		C	0936	80			
HTPR	14	0934	0936	1000	N24	E68	.947	16012	19.5	26	1N		C	0936	140	2.9	E	
KANZ	14	0934	0946	1009	N25	E62	.915	16012	19.0	35	1N	2						
MONT	14	0936E	0936	1004	N25	E67	.943	16012	19.4	28D	1N		C	0936	250			
KHAR	14	1011E		1017D	N28	E58	.896	16012	18.8	6D	-F		V	1011			H	
GRP74478	14	0938+1	0938+3	1000	N20	W56	.861	15990	10.2	22	-N				45	.9	E	
ZURI	14	0938	0940	1006	N20	W57	.869	15990	10.1	28	-B		C	0940	40	.9		
KANZ	14	0938	0938	0953	N19	W56	.859	15990	10.2	15	-N	2						
KHAR	14	0938E		1015D	N22	W57	.874	15990	10.1	37D	1F		P	0938			E	
MONT	14	0939	0941	0951	N20	W54	.845	15990	10.4	12	-F		C	0941	50		E	
479 KHAR	14	0956E		1016D	N07	W37	.619	15992	11.6	20D	-F		V	0956				Y5
GRP74480	14	1012+1	1013+5	1024	S22	W32	.595	15996	12.0	12	-N				120	1.5	E	
ZURI	14	1012	1014	1022	S22	W33	.607	15996	12.0	10	-B		C	1014	120	1.6		
HTPR	14	1012	1015	1025	S22	W32	.595	15996	12.0	13	-N		C	1015	80	.9	E	
BERN	14	1012	1014	1023	S27	W28	.589	15996	12.3	11	-N		P					
KANZ	14	1013	1013	1024	S23	W32	.602	15996	12.0	11	-N	2						
MONT	14	1013	1018	1025	S21	W32	.589	15996	12.0	12	-N		C	1018	110			
KHAR	14	1013E	1015	1033D	S22	W32	.595	15996	12.0	20D	1F		V	1015	160	2.1	E	
481 KHAR	14	1020E		1037D	N37	E22	.704	16018	16.1	17D	-F		V	1020			DH	Y5
482 KHAR	14	1040E		1107D	S31	E20	.558	16017	15.9	27D	-F		V				HT	Y5
GRP74483	14	1124	1128	1146	S30	E18	.531	16017	15.8	22	-F						H	
ZURI	14	1124	1128	1132	S30	E16	.517	16017	15.7	8	-F		C	1128	60	.7		
KHAR	14	1130E		1200D	S31	E20	.558	16017	16.0	30D	-F		V	1130			HT	
GRP74484	14	1303+5	1310+4	1324	N15	E14	.384	16014	15.6	21	-N				50	.5		
LVOV	14	1303	1314	1323	N15	E14	.384	16014	15.6	20	1N		C	1314	200	2.3	D	
ZURI	14	1306	1312	1324	N16	E15	.406	16014	15.7	18	-B		C	1312	50	.6		
KANZ	14	1307	1311	1323	N15	E15	.394	16014	15.7	16	-N	2						
HOLL	14	1308	1310	1325	N14	E14	.371	16014	15.6	17	-B	3	C		38		F	
GRP74485	14	1410+5	1422+1	1431	S31	E16	.530	16017	15.8	21	-F				60	.7		
ZURI	14	1410	1422	1432	S30	E15	.510	16017	15.7	22	-F		C	1422	50	.6		
HOLL	14	1415	1423	1429	S32	E17	.549	16017	15.9	14	-N	3	C		76			
GRP74486	14	1540+0	1541 1546+7	1609	N15	E14	.384	16014	15.7	29	-B				100	1.1	E	
KANZ	14	1540	1547	1607	N15	E14	.384	16014	15.7	27	-B	2					E	
ZURI	14	1540	1546	1546D	N16	E14	.396	16014	15.7	6D	-N		P	1546	100	1.2		
BIGB	14	1540	1550	1608	N16	E15	.406	16014	15.8	28	-B	3	C	1550	100	1.1		
BERN	14	1540	1549	1614	N18	E10	.391	16014	15.4	34	1F		P					
NOHA	14	1540E	1553	1613	N15	E14	.384	16014	15.7	33D	-B		C	1553	100	1.1	E	
HOLL	14	1540	1541	1606	N15	E14	.384	16014	15.7	26	-B	3	C		35			
HOLL	14	1540	1548	1606	N15	E14	.384	16014	15.7	26	-N	3	C		108			
487 HOLL	14	1625	1626	1649	S32	E16	.542	16017	15.9	24	-F	3	C		21			Y5
488 HOLL	14	1735	1742	1747	S32	E16	.542	16017	15.9	12	-N	3	C		24			Y5
489 BIGB	14	1858	1909	1917	S30	E13	.498	16017	15.8	19	-N	3	C	1909	50	.5		Y5
490 BIGB	14	1929	1934	1950	N38	E19	.700	16018	16.2	21	-N	3	C	1934	40	.4		Y5
GRP74491	14	1930+9	1936+4	2005	N15	E13	.374	16014	15.8	35	-N				60	.6		
BIGB	14	1930	1940	2016	N15	E13	.374	16014	15.8	46	-B	3	C	1940	80	.8		
HOLL	14	1931	1936	2010	N15	E11	.356	16014	15.6	39	-B	3	C		87			
HUAN	14	1932		2000	N15	E14	.384	16014	15.9	28	-F	1	C	1942	45	.5	E	
PALE	14	1939	1939	1948	N14	E14	.371	16014	15.9	9	-N	3	C		44		F	
492 BIGB	14	1937	1939	1944	N22	E54	.850	16012	18.9	7	-B	3	C	1939	30	.5		Y5
493 HOLL	14	2023	2025	2031	N15	E11	.356	16014	15.7	8	-B	3	C		23			Y5
494 HOLL	14	2109	2110	2116	N12	E34	.600	16010	17.4	7	-N	3	C		42			Y5
495 BIGB	14	2135	2141	2224	S30	E50	.814	16013	18.6	49	-N	3	C	2141	30	.5		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
496 HOLL	14	2156	2157	2202	S22	W37	.652	15996	12.1	6	-N	3	C		26			Y5
GRP74497	14	2156+1	2158+3	2221	N23	W53	.845	15990	10.9	25	-N				30	.6		
BIGB	14	2156	2158	2221	N23	W53	.845	15990	10.9	25	-B	*	C	2158	50	.9		
CULG	14	2156	2201	2221	N25	W52	.844	15990	11.0	25	-N	*	C	2201	30	.4		
HOLL	14	2157	2159	2203	N19	W63	.911	15990	10.2	6	-N	*	C		17			
GRP74498	14	2210+7	2210 2218+3	2236	N13	E33	.593	16010	17.4	26	-B				30	.4		
HOLL	14	2210	2210	2243	N12	E33	.588	16010	17.4	33	-B	3	C		20			
HOLL	14	2210	2221	2243	N12	E33	.588	16010	17.4	33	-N	3	C		23			
BIGB	14	2217	2218	2228	N14	E34	.611	16010	17.5	11	-B	3	C	2218	40	.5		
GRP74499	14	2244+6	2253+3	2333	N18	E12	.406	16014	15.8	49	-B						F	
CULG	14	2244	2253	2336U	N22	E15	.482	16014	16.1	520	1N		C	2253	280	3.2	F	
HOLL	14	2250	2253	2329	N15	E10	.348	16014	15.7	39	-B	3	C		97		F	
500 CULG	15	0000	0004	0014	S14	E70	.939	0	20.3	14	-F		C	0004	30		G	Y5
GRP74501	15	0006+2	0012+2	0049	S21	W39	.671	15996	12.1	43	-N				180	1.4		
CULG	15	0006	0012	0100	S21	W40	.682	15996	12.0	54	-N		C	0012	90	1.3		
HOLL	15	0008	0014	0038	S22	W38	.664	15996	12.2	30	-B	3	C		109			
502 CULG	15	0025	0129	0230	N26	E37	.492	16007	15.5	125	-N		P	0129	70	.7	K	Y5
503 CULG	15	0104	0112	0140	N16	W57	.860	15990	10.8	36	-F		C	0112	40	.8		Y5
504 MITK	15	0356E		0359D	S30	E10	.483	16017	15.9	3D	1F		P	3356	190	2.2	EH	Y5
GRP74505	15	0515E	0526 0538	0539D	S31	E08	.489	16017	15.8	24	? F						EJ	
ABST	15	0515E	0526	0539D	S32	E09	.508	16017	15.9	24D	?F		P	0539	175	2.1	DJ	
	IMP.1 NO 1 HTPR																	
ABST	15	0536	0538	0539D	S30	E07	.471	16017	15.8	3D	-N		P	0538	96	1.1	EJ	
506 CULG	15	0625E	0625J	0630	N07	W59	.863	15992	10.8	5D	-N		P	0625	60	1.2	B	Y5
507 CULG	15	0647E	0647E	0653	N25	W53	.851	15994	11.3	6D	-F		P	0647	30	.6		Y5
508 KANZ	15	0733E	0753	0804	S30	E08	.475	16017	15.9	31D	-F	2						Y5
GRP74509	15	0811+4	0815+7	0830	N24	E51	.832	16012	19.2	19	-N						EI	
KANZ	15	0811	0822	0837	N26	E51	.839	16012	19.2	26	-B	2						
HTPR	15	0811	0816	0825	N25	E50	.827	16012	19.1	14	-N		C	0816	120	1.8	E	
CATA	15	0815	0815	0830	N21	E52	.830	16012	19.2	15	-N	1	C	0815	56	1.0		
KIEV	15	0815E	0818	0830D	N24	E54	.856	16012	19.4	15D	1F		C	0820	200	4.3	EI	
GRP74510	15	0837	0841	0909	N14	E25	.498	16010	17.2	32	-N						EH	
KANZ	15	0837	0841	0857	N14	E25	.498	16010	17.2	20	-N	2					E	
KHAR	15	0850E		0905D	N13	E26	.503	16010	17.3	15D	-F		P	0850	60	.7	H	
KHAR	15	0850E		0920D	N15	E24	.494	16010	17.2	30D	-F		P				E	
GRP74511	15	0935>9	0935 0943+2	0958	S30	E06	.468	16017	15.8	53	-F						EH	
KHAR	15	0905E		0940D	S31	E05	.480	16017	15.8	35D	-F		P	0905			T	
MONT	15	0928	0935	0955	S30	E06	.468	16017	15.8	27	-F		C	0935	50		E	
KANZ	15	0932	0943	0958	S30	E06	.468	16017	15.8	26	-F	1						
KHAR	15	0935E	0945	1000D	S30	E06	.468	16017	15.8	25D	-N		V	0945			EHT	
GRP74512	15	1025>9	1035 1059	1118	S30	E05	.465	16017	15.8	53	-N						EH	
KHAR	15	1025E	1035	1130D	S30	E04	.463	16017	15.7	65D	1N		P	1034	250	3.0	EHT	
MONT	15	1055	1059	1108	S30	E05	.465	16017	15.8	13	-F		C	1059	50			
ZURI	15	1114	1116	1118	S30	E05	.465	16017	15.8	4	-N		C	1116	60	.7		
GRP74513	15	1101+1	1101+2	1108	N14	E26	.511	16010	17.4	7	-N						EH	
KHAR	15	1101E	1101	1112D	N16	E27	.539	16010	17.5	11D	-N		P	1101			H	
KANZ	15	1101	1101	1109	N13	E26	.503	16010	17.4	8	-B	2					E	
ZURI	15	1102	1102	1104	N14	E26	.511	16010	17.4	2	-N		C	1102	60	.7		
HTPR	15	1102	1103	1106	N14	E26	.511	16010	17.4	4	-F		C	1103	20	.2	E	
514 KHAR	15	1123E		1132D	N15	E04	.311	16014	15.8	9D	-F		P	1130	100	1.0	E	Y5
515 KHAR	15	1136E		1154D	N04	W50	.771	15992	11.7	18D	-F	*	P	1145	50	.7	D	Y5
516 KHAR	15	1136E		1155D	N16	E03	.324	16014	15.7	19D	-F		P	1148			D	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
517 ZURI	15	1156	1218	1226	N21	W61	.900	15998	10.9	30	-N		C	1218	90	2.1	Y5
GRP74518	15	1345+1	1345+1	1353	N15	00	.304	16014	15.6	8	-F						D
KANZ	15	1345	1345	1358	N15	E00	.304	16014	15.6	13	-F	2					D
ZURI	15	1346	1346	1348	N15	E01	.304	16014	15.6	2	-N		C	1346	60	.7	
519 MCMA	15	1351E	1405	1417	S31	E03	.476	16017	15.8	260	-F		C	1405	40	.4	E Y5
GRP74520	15	1426+1	1436+1	1448	S30	E03	.461	16017	15.8	22	-N				50	.6	E
ZURI	15	1426	1436	1446	S30	E03	.461	16017	15.8	20	-N		C	1436	70	.8	
MCMA	15	1427	1437	1450	S31	E03	.476	16017	15.8	23	-N		C	1437	30	.4	E
521 BIGB	15	1440	1450	1459	N25	E47	.802	16012	19.1	19	-N	2	C	1450	40	.6	Y5
GRP74522	15	1450+1	1450+1	1458	N20	W23	.530	15999	13.9	8	-N				30	.4	E
BIGB	15	1450	1451	1458	N20	W25	.551	15999	13.7	8	-N	2	C	1451	20	.2	
ZURI	15	1450	1450	1456	N20	W23	.530	15999	13.9	6	-N		C	1450	60	.7	
MCMA	15	1451	1451	1459	N20	W23	.530	15999	13.9	8	-N		C	1451	30	.4	E
523 MCMA	15	1505	1506	1513	S31	E03	.476	16017	15.9	8	-F		C	1506	35	.4	E Y5
GRP74524	15	1534+1	1538+1	1546	N15	E03	.308	16014	15.9	12	-F				40	.4	E
MCMA	15	1534	1539	1543	N16	E04	.327	16014	15.9	9	-F		C	1539	40	.4	E
RAMY	15	1535	1538	1549D	N14	E02	.289	16014	15.8	140	-N	3	C		35		
GRP74525	15	1539+1	1542+4	1601	S18	E25	.483	16009	17.5	22	-F				70	.8	EJ
BIGB	15	1539	1542	1547	S17	E25	.476	16009	17.5	8	-N	2	C	1547	60	.7	
MCMA	15	1540	1546	1615D	S19	E26	.503	16009	17.6	35D	-F		C	1546	80	.9	EJ
526 MCMA	15	1600	1603	1615	S31	E02	.475	16017	15.8	15	-F		C	1603	35	.4	E Y5
GRP74527	15	1610+5	1618+5	1645	S15	W30	.530	16001	13.4	35	-N						EU
HTPR	15	1610		1632D	S15	W31	.544	16001	13.3	22D	-N		C	1616	80	.9	E
HUAN	15	1611	1620	1633	S16	W28	.509	16001	13.6	22	-N	1	C	1620	45	.5	E
MCMA	15	1612		1647	S16	W29	.522	16001	13.5	35	-B		C	1623	90	1.1	E
WEND	15	1612	1623	1651	S15	W31	.544	16001	13.4	39	1N		C		400	5.0	GE
HOLL	15	1612	1618	1648	S15	W31	.544	16001	13.4	36	-B	3	C		152		U
RAMY	15	1615	1618	1641	S16	W28	.509	16001	13.6	26	-B	3	C		93		F
GRP74528	15	1703+1	1704+3	1713	N14	00	.287	16014	15.7	10	-N				50	.5	
BIGB	15	1703	1704	1715	N15	E00	.304	16014	15.7	12	-N	2	C	1704	60	.6	
HOLL	15	1704	1707	1711	N14	E00	.287	16014	15.7	7	-N	3	C		36		
GRP74529	15	1724+0	1724+0	1730	S21	W46	.747	15996	12.3	6	-N				45	.7	E
HOLL	15	1724	1724	1730	S22	W47	.761	15996	12.2	6	-N	3	C		35		
MCMA	15	1724	1724	1729	S21	W46	.747	15996	12.3	5	-B		C	1724	50	.8	E
GRP74530	15	1802	1805	1820	N15	E02	.306	16014	15.9	18	-N				45	.5	E
BIGB	15	1802	1805	1824	N15	E02	.306	16014	15.9	22	-N	2	P	1805	40	.4	
MCMA	15	1803E		1816	N15	E02	.306	16014	15.9	13D	-N		C	1808	50	.6	E
531 BIGB	15	1824	1826	1837	N27	E01	.496	16007	15.8	13	-N	2	C	1826	20	.2	Y5
532 BIGB	15	1829	1830	1833	N03	W57	.841	15992	11.5	4	-N	2	C	1830	20	.4	Y5
533 BIGB	15	1929	1941	1947	N26	E38	.727	16012	18.7	18	-N	2	C	1941	30	.4	Y5
534 HOLL	15	2015	2021	2032	N09	W61	.882	15992	11.3	17	-B	3	C		23		Y5
535 BIGB	15	2103	2105	2112	N14	E18	.414	16010	17.2	9	-B	2	C	2105	20	.2	Y5
536 BIGB	15	2106	2111	2130	N15	E00	.304	16014	15.9	24	-N	2	C	2111	90	.9	Y5
537 HOLL	15	2141	2144	2152	S15	W34	.584	16001	13.4	11	-N	3	C		27		Y5
GRP74538	15	2218+1	2221+3	2304	N24	E47	.798	16012	19.5	46	1B						U
BIGB	15	2218	2224	2300	N23	E45	.775	16012	19.3	42	1B	2	C	2224	300	4.4	
CULG	15	2218	2221	2307	N22	E47	.789	16012	19.5	49	-B		C	2221	120	1.9	
HOLL	15	2219	2224	2304	N26	E47	.806	16012	19.5	45	2B	3	C		479		UDE
PALE	15	2225E	2225J	2230D	N26	E54	.862	16012	20.0	5D	-B	3	V		140		FDE
539 CULG	15	2220	2230	2250	N24	W67	.941	15990	10.9	30	-F		C	2230	40		Y5
GRP74540	15	2356	0001	0013	N15	W04	.311	16014	15.7	17	-N						
CULG	15	2356	2401	0013	N15	W04	.311	16014	15.7	17	-N		C	2401	80	.8	
CULG	15	2357	2401	0009	N15	W04	.311	16014	15.7	12	-N		C	2401	50	.5	T

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.	
541 CULG	16	0059	0101	0105	N15	W35	.627	15999	13.4	6	-F		C	0101	10	.1	YS
542 CULG	16	0338	0342	0359	N15	W32	.591	15999	13.8	21	-F		C	0342	40	.5	YS
GRP74543	16	0930	0933	0955	N15	W11	.353	16014	15.6	25	-F						D
KANZ	16	0930	0933	0949	N15	W11	.353	16014	15.6	19	-F	1					
KHAR	16	0933E		1000D	N16	W12	.375	16014	15.5	270	-F		P	0938	100	1.0	D
GRP74544	16	0937+8	0947+2	0952	S21	W61	.884	15996	11.8	15	-F						E
KHAR	16	0937	0947	0956D	S22	W63	.899	15996	11.7	210	-N		V	0947			E
KANZ	16	0941	0949	0952D	S22	W61	.885	15996	11.8	110	-F	1					
ZURI	16	0945	0947	0949	S21	W60	.876	15996	11.9	4	1N		C	0947	120	2.7	
MONT	16	0945	0947	0952	S21	W61	.884	15996	11.8	7	-F		C	0947	50		
545 KHAR	16	1007E		1020D	N26	W85	.998	15990	10.0	130	-F		P				YS
546 KHAR	16	1008E		1020D	S22	W63	.899	15996	11.7	120	-F		P				YS
GRP74547	16	1030+5	1031+4	1045	N15	W10	.345	16014	15.7	15	-N				70	.7	E
KHAR	16	1015E	1031	1110	N16	W12	.375	16014	15.5	550	1N		P	1055	300	3.0	E
MONT	16	1030	1034	1046	N15	W09	.337	16014	15.8	16	-N		C	1034	80		E
HTPR	16	1030	1031	1045	N14	W10	.331	16014	15.7	15	-N		C	1031	50	.5	E
ZURI	16	1031	1033	1045	N15	W10	.345	16014	15.7	14	1N		C	1033	220	2.5	
CATA	16	1035	1035	1045	N14	W08	.315	16014	15.8	10	-N	2	P	1035	56	.6	
GRP74548	16	1136+1	1139+0	1146	S21	W62	.891	15996	11.8	10	-N						
KHAR	16	1136E	1139	1150D	S22	W63	.899	15996	11.8	140	-N		V	1139			
ZURI	16	1137	1139	1141	S21	W61	.884	15996	11.9	4	-N		C	1139	60	1.3	
549 KHAR	16	1147E		1200D	N16	W12	.375	16014	15.6	130	-N		V				E YS
550 MCMA	16	1207	1222	1255D	N14	W12	.349	16014	15.6	480	-N		C	1222	60	.6	E YS
551 MCMA	16	1210E	1215	1229	N14	W40	.682	15999	13.5	190	-F		C	1215	30	.4	E YS
552 MCMA	16	1226	1229	1300D	N14	E11	.339	16010	17.3	340	-F		C	1229	30	.3	E YS
GRP74553	16	1259+2	1301+2	1309	S16	W40	.664	16001	13.5	10	-F				60	.8	E
ZURI	16	1259	1301	1307	S16	W40	.664	16001	13.5	8	-F		C	1301	80	1.1	
MCMA	16	1301	1303	1310	S16	W40	.664	16001	13.5	9	-F		C	1303	50	.7	E
554 MCMA	16	1305	1309	1325	N14	W40	.682	15999	13.5	20	-N		C	1309	40	.5	E YS
555 HTPR	16	1325	1335	1348	N14	W12	.349	16014	15.7	23	-F		C	1335	20	.2	E YS
GRP74556	16	1405+8	1419 1433+4	1456	N14	W43	.716	15999	13.4	53	-F						E
MCMA	16	1405	1437	1516	N14	W43	.716	15999	13.4	73	1N		C	1437	140	2.0	E
ZURI	16	1407	1419	1511	N14	W44	.727	15999	13.3	64	-N		C	1419	140	2.1	
HUAN	16	1412		1440	N15	W45	.742	15999	13.2	28	-F	1	C	1430	50	.7	E
KANZ	16	1413	1433	1444	N13	W42	.701	15999	13.4	31	-F	2					E
557 BIGB	16	1438E	1438	1520	N13	E43	.712	16015	19.8	420	-N	1	P	1438	110	1.6	YS
GRP74558	16	1500+5	1504+5	1524	S22	W65	.913	15996	11.7	24	-N						E
BIGB	16	1500	1508	1530	S22	W66	.919	15996	11.7	30	-B	2	P	1508	100		
HOLL	16	1501	1504	1550	S22	W59	.870	15996	12.2	49	-N	3	C		39		
MCMA	16	1504	1508	1520	S20	W66	.918	15996	11.7	16	-F		C	1508	40	1.0	E
KANZ	16	1504	1507	1521	S22	W66	.919	15996	11.7	17	-N	1					
ZURI	16	1505	1509	1511	S21	W63	.898	15996	11.9	6	1N		C	1509	140	3.1	
559 MCMA	16	1529	1543	1558	N14	W13	.358	16014	15.7	29	-N		C	1543	50	.5	E YS
GRP74560	16	1558+3	1601+2 1635+3	1649	N14	W42	.705	15999	13.5	51	-N				45	.6	E
HUAN	16	1558	1603	1620	N15	W42	.709	15999	13.5	22	-N	1	C	1603	30	.4	
MCMA	16	1559	1601	1618	N14	W44	.727	15999	13.4	19	-N		C	1601	25	.4	D
WEND	16	1601	1635	1641D	N14	W39	.670	15999	13.7	400	-N		C		200	2.7	E
KANZ	16	1606E		1648D	N14	W42	.705	15999	13.5	420	-F	1					
HUAN	16	1634	1635	1644	N14	W42	.705	15999	13.5	10	-N	2	C	1635	35	.5	E
HOLL	16	1636	1636	1653	N14	W41	.693	15999	13.6	17	-B	3	C		46		
MCMA	16	1637E	1638	1649	N14	W44	.727	15999	13.4	120	-F		C	1638	40	.6	E
561 KANZ	16	1629	1633	1644	S10	E78	.977	16023	22.5	15	-F	2					YS
562 HUAN	16	1806		1808	N21	W39	.785	15999	13.8	2	-F	1	C				E YS

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONO	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP74563	16	1807+3	1811	1828	S20	W64	.904	15996	12.0	21	-N						
HOLL	16	1807	1811	1828	S21	W62	.891	15996	12.1	21	-B	3	C		26		
HUAN	16	1810		1817D	S20	W67	.924	15996	11.7	7D	-F	1	P				
564 BIGB	16	1827	1830	1836	N07	W80	.986	15992	10.8	9	-B	3	C	1830	20		YS
GRP74565	16	1844+6	1851+1	1904	N15	W44	.731	15999	13.5	20	-N				40	.6	D
BIGB	16	1844	1851	1912	N16	W45	.745	15999	13.4	28	-N	*	C	1o51	60	.9	
MCMA	16	1848	1852	1856	N14	W44	.727	15999	13.5	8	-F	*	C	1852	25	.3	D
HOLL	16	1850	1852	1853D	N15	W42	.709	15999	13.6	3D	-B	*	C		27		
GRP74566	16	1847+3	1851+2	1858	S21	W66	.919	15996	11.8	11	-N				35		D
BIGB	16	1847	1851	1912	S22	W66	.919	15996	11.8	25	-N	3	C	1851	50		
HUAN	16	1847		1858	S20	W66	.918	15996	11.8	11	-F	1	C	1853	20		D
MCMA	16	1847	1851	1855	S21	W66	.919	15996	11.8	8	-F		C	1851	40	1.0	D
HOLL	16	1850	1853	1853D	S21	W62	.891	15996	12.1	3D	-B	3	C		28		
GRP74567	16	1855+0	1857+3	1913	N14	E35	.297	16010	17.2	18	-B				110	1.2	E
MCMA	16	1855	1857	1917	N13	E05	.281	16010	17.2	22	-B		C	1857	110	1.2	E
HUAN	16	1855	1857	1910	N14	E05	.297	16010	17.2	15	-N	2	C	1857	80	.8	E
BIGB	16	1855	1857	1913	N15	E06	.318	16010	17.2	18	-B	3	C	1857	140	1.5	
GRP74568	16	1955	2003	2007	S21	W67	.925	15996	11.8	12	-F						E
MCMA	16	1955	2003	2008D	S21	W66	.919	15996	11.9	13D	-N		C	2003	50	1.3	E
HUAN	16	2000E		2005	S21	W68	.931	15996	11.7	5D	-F	1	P				C
569 MCMA	16	1958	2001	2004	S11	E77	.973	16023	22.6	6	-F		C	2001			D YS
GRP74570	16	1958>9	2018	2028	N14	W15	.379	16014	15.7	30	-F						D
MCMA	16	1958	2008	2008D	N14	W15	.379	16014	15.7	10D	-N		C	2008	50	.5	D
HUAN	16	2008	2018	2028	N14	W15	.379	16014	15.7	20	-F	1	C	2018	20	.2	D
571 BIGB	16	2127	2129	2132	S20	W63	.897	15996	12.2	5	-N	2	C	2129	30	.7	YS
GRP74572	16	2133+1	2144+2	2206	N15	W16	.401	16014	15.7	33	-N				80	.9	
PALE	16	2133	2146	2154	N15	W17	.412	16014	15.6	21	-N	*	C		65		FDE
BIGB	16	2134	2144	2213	N16	W16	.413	16014	15.7	39	-N	*	C	2144	90	1.0	
CULG	16	2138E	2138E	2206	N15	W15	.391	16014	15.8	28D	-N	*	P	2138	90	1.0	B
GRP74573	16	2144+1	2145+3	2152	S20	W67	.924	15996	11.9	8	-N				20		
BIGB	16	2133	2146	2158	S20	W63	.897	15996	12.2	25	-N	2	C	2146	30	.7	
CULG	16	2144	2148	2152	S19	W70	.941	15996	11.7	8	-F		C	2148	10		T
PALE	16	2145	2145	2150	S21	W67	.925	15996	11.9	5	-N	3	C		12		DE
574 CULG	16	2202	2206	2238	S18	E70	.941	0	22.2	36	-F		C	2206	40		T YS
575 CULG	16	2354	2358	0011	N08	E20	.384	0	18.5	17	-F		C	2358	20	.2	G YS
GRP74576	17	0030+3	0033+1	0039	N13	E06	.285	16010	17.5	9	-B				50	.5	FH
CULG	17	0030	0033	0042	N13	E07	.292	16010	17.5	12	-B		C	0033	60	.6	
PALE	17	0033	0034	0036	N14	E05	.296	16010	17.4	3	-B	3	C		51		F H
577 PALE	17	0039	0039	0100	S21	W69	.937	15996	11.9	21	-N	3	C		32		DE YS
GRP74578	17	0107>9	0118+4	0138	S22	W69	.937	15996	11.9	31	-B				70		F
PALE	17	0107	0122	0139D	S21	W69	.937	15996	11.9	32D	-B	3	C		69		F
CULG	17	0116	0118	0136	S22	W69	.937	15996	11.9	20	-N		C	0118	30		T
BIGB	17	0117	0119	0119D	S22	W67	.926	15996	12.0	2D	-B	3	C	0119	100		
579 CULG	17	0114	0116	0120	N26	E36	.707	16012	19.8	6	-F		C	0116	10	.1	YS
580 CULG	17	0122	0127	0144	S23	W46	.755	16001	13.6	22	-F		C	0127	50	.8	G YS
581 CULG	17	0122	0127	0131	N13	E07	.292	16010	17.6	9	-F		C	0127	30	.3	YS
582 CULG	17	0159	0201	0208	N23	W42	.745	15999	13.9	9	-F		C	0201	30	.4	YS
583 CULG	17	0235	0238	0252	N08	W31	.539	16000	14.8	17	-N		C	0238	20	.2	G YS
584 CULG	17	0313	0314	0320	N19	W90	1.000	15990	10.4	7	-N		C	0314	20		YS
585 CULG	17	0315	0320	0329	S22	W73	.958	15996	11.7	14	-N		C	0320	20		T YS
586 CULG	17	0330	0330	0333	N17	W85	.997	15990	10.8	3	-F		C	0330	10		YS
587 CULG	17	0355	0417J	0456	N10	E03	.222	16010	17.4	61	-F		C	0417	70	.7	FL YS

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP74588	17	0536	0539	0605	N12	E03	.255	16010	17.5	29	-B						E
CULG	17	0536	0539	0635	N13	E08	.267	16010	17.2	29	-B		C	0539	100	1.6	
TACH	17	0540E		0550D	N12	E06	.270	16010	17.7	10D	1F		V	0544	221	2.3	E
589 CULG	17	0542	0553	0601	N25	E20	.554	16012	18.7	19	-F		C	0553	10	.1	Y5
GRP74590	17	0850+6	0858+4 1023+1	1052	S19	W75	.966	15996	11.7	122	-N						EH
KHAR	17	0850	0902	0947D	S19	W76	.970	15996	11.7	57D	1N	*	P	0918	208		EHT
HONT	17	0856	0858	0905	S18	W78	.978	15996	11.5	9	-F	*	C	0858	50		D
KANZ	17	0856	1024	1104D	S22	W73	.958	15996	11.9	128D	-N	*					
KHAR	17	1008E		1026D	S20	W75	.966	15996	11.8	18D	-F	*	P	1017			T
HONT	17	1020	1023	1039	S21	W76	.971	15996	11.7	19	-N	*	C	1023	100		E
GRP74591	17	0852		1104D	N15	W23	.486	16014	15.6	132	-F						E
KANZ	17	0852		1104D	N15	W25	.504	16014	15.5	132D	-F	1					
KHAR	17	0902E		0955D	N16	W22	.478	16014	15.7	53D	-N		P	0918	150	1.7	E
592 KHAR	17	0950E	0950	0952D	N32	W43	.802	16003	14.2	2D	-F		V	0950			Y5
593 KHAR	17	1120E		1138D	S19	W75	.966	15996	11.8	18D	-N		V	1120			T Y5
GRP74594	17	1340+4	1347+2	1353	S22	W78	.978	15996	11.7	13	-N				30		D
LVOV	17	1340	1349	1415	S23	W78	.978	15996	11.7	35	1N		C	1349	150		D
HUAN	17	1341	1347	1352	S21	W84	.994	15996	11.3	11	-N	1	C	1347	25		D
MCMA	17	1343	1347	1353	S22	W78	.978	15996	11.7	10	-B		C	1347	30	1.5	D
KANZ	17	1344		1352D	S23	W77	.975	15996	11.8	8D	-N	1					
GRP74595	17	1351+1	1354+3	1401	N17	W57	.861	15999	13.3	10	-F				25	.5	D
MCMA	17	1351	1354	1405D	N17	W58	.870	15999	13.2	14D	-N		C	1354	25	.5	D
HUAN	17	1352	1354	1357	N17	W56	.853	15999	13.4	5	-F	1	C	1354	20	.3	D
596 MCMA	17	1410	1413	1418	S22	W78	.978	15996	11.7	8	-F		C	1413	30	1.5	E Y5
GRP74597	17	1507+3	1509+3 1519	1526	N18	W57	.864	15999	13.4	19	-N				25	.5	
HOLL	17	1426	1510	1512D	N15	W54	.831	15999	13.6	46D	-B	3	V		126		DE
BIGB	17	1507	1509	1528	N18	W56	.855	15999	13.4	21	-B	3	C	1509	20	.4	
MCMA	17	1507	1510	1524	N19	W59	.881	15999	13.2	17	-B		C	1510	20	.4	D
KANZ	17	1508	1519	1530	N17	W57	.861	15999	13.4	22	-F	1					
HUAN	17	1510	1512	1516	N19	W57	.866	15999	13.4	6	-F	1	C	1512	30	.6	E
598 HOLL	17	1511	1524	1539	S21	W74	.962	15996	12.1	28	-N	3	C		25		F Y5
599 HOLL	17	1522	1523	1535	N25	E22	.570	16012	19.3	13	-N	3	C		20		Y5
600 HOLL	17	1540	1543	1549	N25	E22	.570	16012	19.3	9	-N	3	C		23		Y5
GRP74601	17	1620+1	1621	1624	S20	W80	.984	15996	11.7	4	-N						D
HUAN	17	1620	1621	1624	S20	W83	.992	15996	11.5	4	-N	2	C	1621	25		D
KANZ	17	1621		1621D	S21	W77	.974	15996	11.9		-N	1					
GRP74602	17	1632+9	1645+2	1712	S22	W80	.984	15996	11.7	40	-N				50		
BIGB	17	1632	1647	1731	S22	W80	.984	15996	11.7	59	-B	3	C	1647	160		
MCMA	17	1640	1645	1705	S22	W75	.967	15996	12.1	25	1N		C	1645	50	2.0	D
HUAN	17	1641		1712	S20	W80	.984	15996	11.7	31	-N	1	C	1647	30		E
603 MCMA	17	1734	1748	1808	N18	W60	.887	15999	13.2	34	-N		C	1748	40	.9	E Y5
604 MCMA	17	1826	1829	1833	S22	W80	.984	15996	11.8	7	-F		C	1829	25	1.5	D Y5
GRP74605	17	1845+2	1847+1	1854	N16	W55	.842	15999	13.7	9	-N				50	.9	DV
MCMA	17	1845	1847	1854	N16	W55	.842	15999	13.7	9	-B		C	1847	50	1.0	DV
BIGB	17	1845	1847	1908	N16	W56	.851	15999	13.6	23	-N	3	C	1847	80	1.5	
HUAN	17	1847	1848	1852	N16	W55	.842	15999	13.7	5	-N	1	C	1848	25	.4	D
606 BIGB	17	1912	1916	1930	S16	W39	.652	16005	14.9	18	-N	3	C	1916	30	.4	Y5
607 BIGB	17	1916	1920	1948	S20	W80	.984	15996	11.8	32	-B	3	C	1920	90		Y5
608 BIGB	17	1939	1943	1958	S14	W60	.869	16001	13.3	19	-N	3	C	1943	30	.6	Y5
GRP74609	17	1953+3	2003+2 2012	2026	S21	W80	.984	15996	11.8	33	-B						E
HOLL	17	1953	2003	2027	S22	W74	.962	15996	12.3	34	-B	3	C		20		
BIGB	17	1956	2005	2031	S20	W80	.984	15996	11.8	35	-B	3	C	2005	90		
MCMA	17	2007E	2012	2025D	S22	W82	.989	15996	11.7	18D	-F		C	2012			E
HUAN	17	2010		2020	S21	W80	.984	15996	11.8	10	-F	1	C				

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP74610	17	2031+3	2033	2037	N16	W56	.851	15999	13.7	6	-F							
MCMA	17	2031	2033	2038	N16	W56	.851	15999	13.7	7	-N		C	2033	50	1.0	E	
HUAN	17	2031		2036	N16	W56	.851	15999	13.7	5	-F	1	C				D	
611 HOLL	17	2127	2128	2135	N15	W58	.866	15999	13.5	8	-B	3	C		21			Y5
GRP74612	17	2145	2146+2	2159	S21	E85	.995	16025	24.3	14	-N				20			
BIGB	17	2145	2146	2155	S21	E85	.995	16025	24.3	10	-B	3	C	2146	20			
CULG	17	2146E	2148	2202	S21	E85	.995	16025	24.3	16D	-N		P	2148	20			
613 CULG	17	2208	2212	2220	N18	E57	.864	16020	22.2	12	-F		C	2212	20	.4		Y5
614 CULG	17	2213	2218	2226D	S18	W78	.978	15996	12.1	13D	-N		P	2218	30		T	Y5
615 CULG	17	2219	2226	2226D	S14	W40	.658	16005	14.9	7D	-F		P	2226	30	.4		Y5
616 CULG	17	2250	2257	2309	N16	W28	.549	16014	15.9	19	-F		C	2257	10	.1		Y5
GRP74617	17	2310+6	2318+2	2341	S19	W80	.984	15996	12.0	31	-N				15		F	
CULG	17	2310	2320	2349	S19	W84	.994	15996	11.7	39	-N		C	2320	20		T	
HOLL	17	2316	2318	2333	S19	W76	.970	15996	12.3	17	-B	2	C		14		F	
618 CULG	17	2338	2354	0045	N16	W50	.796	15999	14.2	67	-N		C	2354	60	1.2		Y5
GRP74619	18	0014+3	0019+3	0038	S19	W85	.995	15996	11.6	24	-B				20			
CULG	18	0014	0022	0038	S19	W87	.998	15996	11.5	24	-B		C	0022	20		T	
HOLL	18	0017	0019	0031	S19	W75	.966	15996	12.4	14	-B	2	C		21			
BIGB	18	0022E	0022	0038	S21	W85	.995	15996	11.6	16D	-N	2	P	0022	80			
620 CULG	18	0021	0025	0034	N16	W29	.560	16014	15.8	13	-F		C	0025	20	.2		Y5
621 BIGB	18	0040	0051	0106	S21	W85	.995	15996	11.7	26	-N	2	C	0051	40			Y5
622 CULG	18	0148	0204	0220	S29	W28	.611	16017	16.0	32	-F		C	0204	30	.4	K	Y5
623 CULG	18	0240	0246	0326	N16	E53	.824	16020	22.1	46	-B		C	0246	90	1.7		Y5
624 CULG	18	0331	0335	0350	N16	W30	.572	16014	15.9	19	-F		C	0335	20	.2		Y5
625 CULG	18	0331	0336	0406	S16	W45	.723	16005	14.8	35	-N		C	0336	30	.5		Y5
626 CULG	18	0420	0431	0515	S29	W32	.649	16017	15.8	55	-F		C	0431	20	.3	K	Y5
627 CULG	18	0446	0455	0628U	N35	W58	.912	16003	13.8	102D	-F		C	0455	70	1.8	LFK	Y5
628 CULG	18	0509	0510	0521	S22	W54	.829	16001	14.2	12	-N		C	0510	50	.7		Y5
629 CULG	18	0516	0516	0521	N14	E54	.829	16020	22.3	5	-F		C	0516	30	.6	V	Y5
630 ABST	18	0516	0522	0525	N19	W35	.649	16014	15.6	9	-F		C	0522	87	1.2	DJ	Y5
GRP74631	18	0517+4	0519+5	0535	S18	W89	1.000	15996	11.5	18	-N						ADJ	
CULG	18	0517	0519	0534	S19	W88	.999	15996	11.6	17	-N		C	0519	20		T	
ABST	18	0521	0524	0535	S17	W90	1.000	15996	11.5	14	1N		C	0524	87		ADJ	
632 ABST	18	0526	0530	0535	N22	E12	.454	16012	19.1	9	-F		C	0530	87	1.0	D	Y5
633 CULG	18	0530	0536	0607	S14	W45	.719	16005	14.9	37	-N		C	0536	50	.7		Y5
634 ABST	18	0605	0610	0620	S17	W90	1.000	15996	11.5	15	?N		C	0610	87		ADJ	Y5
	IMP.1 NO : HTPR																	
GRP74635	18	0645+5	0650+5	0700	S18	W90	1.000	15996	11.5	15	-N				30		AJ	
HTPR	18	0645	0652	0700	S20	W90	1.000	15996	11.5	15	-F		C	0652	30		E	
CATA	18	0650	0650	0705D	S18	W90	1.000	15996	11.5	15D	-N	2	P	0650	28			
ABST	18	0650	0655	0700	S17	W90	1.000	15996	11.5	10	1N		C	0655	87		ADJ	
636 ABST	18	0655	0656	0705	N16	E49	.786	16020	22.0	10	-N		C	0656	87	1.4	FV	Y5
637 KANZ	18	0758	0802	0806	S16	W46	.735	16005	14.9	8	-F	1						Y5
GRP74638	18	0812+3	0814+3	0826	N15	W33	.602	16014	15.9	14	-F				50	.6	E	
MONT	18	0812	0814	0826	N17	W33	.614	16014	15.9	14	-F		C	0814	50		E	
KANZ	18	0814	0814	0826	N15	W34	.614	16014	15.8	12	-N	2					E	
KHAR	18	0814E	0817	0824D	N16	W33	.608	16014	15.9	10D	-F		P				E	
CATA	18	0815	0815	0825	N15	W33	.602	16014	15.9	10	-N	2	C	0815	56	.7		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS AREA Millionths of Disk	CORR AREA Sq. Deg.		
639 KHAR	18	0824E		0824D	N14	W73	.962	15999	12.9		-F		P				D	Y5
640 KHAR	18	0855E		0902D	S20	W90	1.000	15996	11.6	70	-N		P	0859			T	Y5
GRP74641	18	0857+8	0907+3	0912	N17	W62	.900	15999	13.7	15	-F				50	1.1	E	
ZURI	18	0857	0907	0911	N18	W63	.906	15999	13.6	14	-N		C	0907	60	1.5		
HONT	18	0905	0907	0912	N17	W62	.900	15999	13.7	7	-F		C	0907	50		E	
642 KHAR	18	1110E	1117	1123D	S20	W90	1.000	15996	11.7	130	-F		P	1117			T	Y5
643 KHAR	18	1146E		1206D	S20	W90	1.000	15996	11.7	200	-F		P	1146			T	Y5
644 KHAR	18	1155E	1156	1202D	N18	W62	.901	15999	13.8	70	-N		P	1158	80	1.8	T	Y5
645 ZURI	18	1209	1211	1223	S21	E90	1.000	16030	25.3	14	-N		C	1211	60		E	Y5
646 HUAN	18	1534	1538	1543	S19	W90	1.000	15996	11.9	6	-F	1	C	1538	15			Y5
GRP74647	18	1535+3	1538+0	1552	S12	E41	.666	16023	21.7	17	-N				40	.5		
BIGB	18	1535	1538	1555	S12	E42	.678	16023	21.8	20	-N	2	C	1538	30	.4		
MCMA	18	1536	1538	1552	S13	E40	.656	16023	21.7	16	-N		C	1538	30	.4	E	
HOLL	18	1538	1538	1550	S12	E41	.666	16023	21.7	12	-B	3	C		45		F	
648 HOLL	18	1537	1537	1541	N14	W39	.669	16014	15.7	4	-N	3	C		36			Y5
649 MCMA	18	1547	1551	1558D	N16	W70	.948	15999	13.4	110	-F		C	1551			E	Y5
GRP74650	18	1620+3	1625+0	1631	S12	E40	.653	16023	21.7	11	-F				25	.3	E	
HTPR	18	1620	1625	1631	S12	E39	.640	16023	21.6	11	-F		C	1625	30	.4	E	
BIGB	18	1623	1625	1625D	S12	E42	.678	16023	21.8	20	-N	2	P	1625	20	.3		
651 BIGB	18	1834	1838	1842	S18	W90	1.000	15996	12.0	8	-N	3	C	1838	30			Y5
652 BIGB	18	1846	1856	1905	S18	W90	1.000	15996	12.0	19	-B	3	C	1856	60			Y5
653 PALE	18	1912	1915	1928	N15	W70	.948	15999	13.6	16	-B	3	C		18		F	Y5
GRP74654	18	1925+0	1928+2	1955	N16	W41	.701	16014	15.7	30	-B				120	1.7	E	
PALE	18	1925	1930	1943D	N15	W42	.708	16014	15.7	180	-B	3	V		121		DE	
BIGB	18	1925	1928	1957	N16	W41	.701	16014	15.7	32	-B	3	C	1928	120	1.6		
MCMA	18	1933E		1952	N16	W40	.689	16014	15.8	190	-B		P	1933	50	.7	E	
655 VORO	18	2152	2155	2207	S18	W90	1.000	15996	12.2	15	-N		C	2155	45		EL	Y5
656 VORO	18	2229	2233	2243	N16	W76	.975	15999	13.2	14	?N		C	2233	116		D	Y5
	IMP.1 NO 1 BIG3 CULG																	
GRP74657	18	2231>9	2245+0	2303	S24	E82	.990	16030	25.1	32	-N				30		J	
CULG	18	2231	2245	2314	S24	E80	.985	16030	24.9	43	-N		C	2245	40		J	
BIGB	18	2242	2245	2251	S25	E85	.995	16030	25.3	9	-N	2	C	2245	20			
GRP74658	18	2237+8	2246+1	2258	N17	E40	.694	16020	21.9	21	-F				60	.8	EG	
CULG	18	2237	2246	2258	N18	E41	.710	16020	22.0	21	-N		C	2246	40	.6		
VORO	18	2245	2247	2248D	N17	E40	.694	16020	21.9	30	-F		C	2247	81	1.1	EG	
659 VORO	18	2242	2245	2248	S23	W90	1.000	15996	12.2	6	-N		C	2245	27		D	Y5
GRP74660	18	2300>9	2303 2326	2330	N15	W74	.967	15999	13.4	30	-F							
CULG	18	2300	2303	2321	N15	W73	.962	15999	13.5	21	-F		C	2303	40		T	
VORO	18	2312	2326	2338	N15	W76	.975	15999	13.3	26	1F		C	2326	134			
661 CULG	18	2300	2303	2310	N14	W20	.434	16010	17.5	10	-F		C	2303	20	.2		Y5
GRP74662	18	2329+0	2331+1	2337	N14	W20	.434	16010	17.5	8	-N						DGH	
VORO	18	2329	2331	2337	N15	W21	.455	16010	17.4	8	-N		C	2331	116	1.3	DGH	
CULG	18	2329	2332	2336D	N14	W20	.434	16010	17.5	70	-N		C	2332	30	.3		
663 HOLL	18	2345	2353	2354D	N26	W50	.829	16003	15.2	90	-N	2	C		30			Y5
664 VORO	18	2355	2357	2358	N15	W76	.975	15999	13.3	3	?N		P	2357	134			Y5
	IMP.1 NO 1 BIG3 CULG																	
665 CULG	18	2358	2358	0006	S23	E80	.984	16030	25.3	8	-N		C	2358	10			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX WER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP74666	19	0006+1	0009+0	0031	N15	W78	.982	15999	13.2	25	-F				60			
CULG	19	0006	0009	0031	N15	W76	.975	15999	13.3	25	-F		C	0009	60		T	
VORO	19	0007	0009	0010D	N15	W80	.988	15999	13.0	3D	-N		P	0009	72			
667 CULG	19	0100	0103	0116	N14	W77	.978	15999	13.3	16	-N		C	0103	30		T	Y5
668 CULG	19	0150	0154	0210	S16	W57	.846	16005	14.8	20	-F		C	0154	30	.6		Y5
669 CULG	19	0307	0314	0322	N16	W78	.982	15999	13.3	15	-F		C	0314	20		T	Y5
670 CULG	19	0342	0349	0355	N16	W22	.475	16010	17.5	13	-F		C	0349	30	.3	L	Y5
GRP74671	19	0424+4	0427+4	0445	N16	W75	.971	15999	13.6	21	-N				40			
CULG	19	0424	0427	0448	N17	W79	.985	15999	13.3	24	-B		C	0427	40		T	
HANI	19	0428	0431	0442	N16	W72	.958	15999	13.6	14	-N	3	C		40			
672 CULG	19	0519	0530	0645D	S26	W56	.855	0	15.0	86D	-N		C	0530	90	1.5	FU	Y5
673 CULG	19	0544	0550	0556	N16	W77	.979	15999	13.5	12	-F		C	0550	50		T	Y5
GRP74674	19	0725	0735	0805	N25	E01	.458	16012	19.4	40	-F				110	1.2	E	
CATA	19	0725	0735	0805	N24	W02	.443	16012	19.2	40	-N	1	C	0735	112	1.3		
BUCA	19	0732E		0755D	N25	E01	.458	16012	19.4	23D	-F		C	0735	107	1.2	E	
MONT	19	0744E	0744	0802D	N26	E04	.477	16012	19.6	18D	-F		C	0744	50			
675 MONT	19	0843	0852	0858	N16	W80	.988	15999	13.4	15	-N		C	0852	50		E	Y5
676 MONT	19	0952	0954	1004	N16	W80	.988	15999	13.4	12	-N		C	0954	60		E	Y5
677 MONT	19	1006	1008	1012	S21	E79	.981	16030	25.3	6	-F		C	1008	50		E	Y5
GRP74678	19	1127+2	1128+3	1139	S29	W47	.789	16017	16.0	12	-N						E	
MONT	19	1127	1128	1138	S28	W48	.793	16017	15.9	11	-N		C	1128	80		E	
LVOV	19	1129	1131	1139	S30	W47	.793	16017	16.0	10	1F		C	1131	200	2.7	E	
679 LVOV	19	1426	1428	1438	N16	W90	1.000	15999	12.9	12	?N		C	1428	200		D	Y5
	IMP.1 NO 1 MCMA HOLL HUAN																	
680 PALE	19	2035	2036	2053D	N16	W84	.996	15999	13.6	18D	-B	2	C					Y5
	19	2100	2143	NO FLARE PATROL														
	19	0608	0610	NO FLARE PATROL														
681 VORO	19	2234	2236	2240	N23	W15	.487	16012	18.8	6	-F		C	2236	116	1.3		Y5
682 CULG	20	0030	0048	0114	N29	W87	1.000	16003	13.5	44	?N		C	0048	50			Y5
	IMP.1 NO 1 MITK HOLL VORO																	
683 CULG	20	0117	0120	0126	N37	W48	.859	16018	16.5	9	-F		C	0120	60	1.2		Y5
684 CULG	20	0140	0145	0155	N18	E80	.988	16031	26.1	15	-F		C	0145	20			Y5
685 CULG	20	0147	0150	0210	N26	W80	.990	16003	14.1	23	-N		C	0150	40		T	Y5
686 CULG	20	0410	0417	0431	S29	E53	.839	16026	24.1	21	-F		C	0417	40	.8		Y5
687 CULG	20	0450	0451	0513	N24	E30	.631	16024	22.5	23	-N		C	0451	40	.5		Y5
GRP74688	20	0856+4	0906+4	0925	S17	W73	.957	16005	14.9	29	-N						D	
KHAR	20	0856E	0907	0925D	S17	W77	.974	16005	14.6	29D	-B		V	0910			D	
KANZ	20	0858	0906	0925	S17	W72	.952	16005	15.0	27	-N	1						
CATA	20	0900	0910	0925	S13	W73	.956	16005	14.9	25	-N	2	C	0910	28			
689 KHAR	20	0905E		1005D	N16	W60	.883	16014	15.9	60D	-F		P	0933	65	1.2	T	Y5
690 KHAR	20	0924E	0925	0950D	S24	E65	.916	16030	25.3	26D	-F		P	0933	70			Y5
GRP74691	20	0933+2	0937+3	1000	N23	W18	.509	16012	19.0	27	-N						HU	
KANZ	20	0933	0937	1005	N21	W18	.486	16012	19.0	32	-N	2					U	
KHAR	20	0934E	0938	1000D	N23	W18	.509	16012	19.0	26D	1F		P	0947	220	2.7	H	
CATA	20	0935	0940	0955	N23	W17	.501	16012	19.1	20	-N	2	C	0940	112	1.3		
692 KHAR	20	1003E		1017D	S17	W77	.974	16005	14.6	14D	-F		P				D	Y5
693 KHAR	20	1023E	1024	1038D	N16	W60	.883	16014	15.9	7D	-F		V	1023			T	Y5
694 KHAR	20	1034E	1036	1056D	N16	W65	.918	16014	15.6	22D	-F		V	1036			T	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg	
GRP74695	20	1057	1104+2	1124	S32	E84	.994	16034	26.8	27	-F						
KANZ	20	1057	1104	1124	S32	E78	.981	16034	26.3	27	-N	2					
KHAR	20	1103E	1106	1112D	S33	E90	1.000	16034	27.2	9D	-F		V	1106			
GRP74696	20	1107+9	1114+1 1122	1137	N15	W65	.917	16014	15.6	30	1N						
KHAR	20	1107	1114	1130	N14	W65	.916	16014	15.6	23	1N		P	1118	180		ET
CATA	20	1110	1115	1140	N17	W69	.943	16014	15.3	30	-N	2	C	1115	56		
LVOV	20	1116	1122	1137	N15	W63	.903	16014	15.7	21	1N		C	1122	100		D
GRP74697	20	1523+2	1534+6	1600	S24	E44	.741	16025	23.9	37	-N				45	.7	EG
KANZ	20	1523		1526D	S22	E44	.733	16025	23.9	3D	-F	2					EG
MCMA	20	1523	1534	1558D	S22	E42	.712	16025	23.8	35D	-N		C	1534	50	.7	E
BIGB	20	1525	1540	1600	S24	E44	.741	16025	23.9	35	-N	2	C	1540	40	.6	
MCMA	20	1534	1538	1551	S27	E42	.735	16025	23.8	17	-N		C	1538	20	.3	D
698 BIGB	20	1526	1529	1544	N15	W60	.881	16014	16.1	18	-N	2	C	1529	30	.6		YS
699 BIGB	20	1625	1626	1631	N21	W21	.514	16012	19.1	6	-F	2	C	1626	20	.2		YS
700 PALE	20	1728	1728	1735	S20	E40	.681	16025	23.7	7	-F	3	C		27		DE	YS
701 PALE	20	1746	1747	1800D	S20	E39	.673	16025	23.7	14D	-F	3	C		65		DE	YS
702 PALE	20	1748	1750	1807	N15	W67	.930	16014	15.7	19	-B	3	C		19		DE	YS
703 PALE	20	1749	1749	1800D	N24	W21	.547	16012	19.2	11D	-N	3	C		21		DE	YS
GRP74704	20	1806>9	1828 1840	1929	S22	E41	.701	16025	23.8	83	-N						HK	
PALE	20	1806	1840	1918	S20	E39	.670	16025	23.7	72	-N	3	C		104		DE H	
BIGB	20	1824	1828	1929	S24	E43	.731	16025	24.0	65	-B	2	C	1828	120	1.7	K	
HOLL	20	1909	1909	1947	S22	E41	.701	16025	23.9	38	-F	3	C		56			
GRP74705	20	1851+1	1852+0	1912	S20	E57	.852	16030	25.1	21	-N				25	.5		
BIGB	20	1851	1852	1918	S21	E60	.877	16030	25.3	27	-B	2	C	1852	30	.6		
PALE	20	1852	1852	1906	S20	E55	.834	16030	24.9	14	-N	3	C		16		DE	
706 PALE	20	2112	2112	2121	N24	W23	.565	16012	19.2	9	-N	3	C		43		DE	YS
707 HOLL	20	2339	2342	2350	N14	W67	.929	16014	16.0	11	-N	3	C		16			YS
GRP74708	20	2340+2	2345+4	0030	S21	E40	.686	16025	24.0	50	1B				160	2.2	U	
VORO	20	2340	2345	2350	S21	E40	.686	16025	24.0	10	1N		P	2345	224	3.1	E	
BIGB	20	2341	2345	2345D	S21	E40	.686	16025	24.0	4D	-B	2	P	2345	120	1.6		
HITK	20	2341	2345	0025	S21	E46	.686	16025	24.0	44	-N		C	2345			E	
HOLL	20	2342	2346	0108	S22	E39	.679	16025	23.9	86	-B	3	C		143		U F	
PALE	20	2342	2349	0034	S22	E37	.657	16025	23.8	52	1B	3	C		162		FDE	
GRP74709	21	0014+4	0018+8	0028	N14	W68	.935	16014	15.9	14	-N				50			
HOLL	21	0014	0018	0037	N14	W68	.935	16014	15.9	23	-B	3	C		52			
BIGB	21	0016	0018	0028	N13	W70	.946	16014	15.8	12	-N	3	C	0018	60			
PALE	21	0018	0018	0023	N14	W68	.935	16014	15.9	5	-N	3	C		30		DE	
710 HOLL	21	0016	0022	0103	S29	E42	.746	16026	24.2	47	-N	3	C		17			YS
GRP74711	21	0140+6	0147+1	0154	S21	E38	.664	16025	23.9	14	-B				90	1.2		
VORO	21	0140	0147	0156	S21	E40	.686	16025	24.1	16	-B	*	C	0147	125	1.7	D	
PALE	21	0146	0148	0152	S22	E37	.658	16025	23.8	6	-B	*	C		58		FDE	
712 VORO	21	0142	0145	0155	N35	W68	.959	16018	16.0	13	-B		C	0145	27		G	YS
713 PALE	21	0238	0238	0247	S20	E51	.798	16030	24.9	9	-N	3	C		17		DE	YS
GRP74714	21	0312	0316+3	0329	S21	E36	.641	16025	23.8	17	-N						E	
PALE	21	0312	0319	0323	S22	E36	.647	16025	23.9	11	-B	3	C		64		DE	
TACH	21	0315E	0316	0334D	S21	E37	.653	16025	23.9	19D	1F		V	0316	221	3.0	E	
GRP74715	21	0458+1	0501+1	0515	S22	E53	.821	16030	25.2	17	1B				130	2.3		
CULG	21	0443	0502	0508D	S22	E50	.793	16030	24.9	25D	1B		P	0502	120	2.0		
HITK	21	0458	0501	0523	S22	E53	.821	16030	25.2	22	-N		C	0501			E	
TACH	21	0459	0502	0510	S23	E60	.881	16030	25.7	11	-B		C	0505	151	3.2	F	
716 49ST	21	0523E	0524	0546D	N34	W69	.961	16018	16.0	23D	?F		P	0524	87		DJ	YS
	IMP.1 NO ! HITK TACH																	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR AREA Sq. Deg.	
GRP74717	21	0529+1	0532+0 0543	0615	S21	E37	.653	16025	24.0	46	-N						HJ
TACH	21	0529	0532	0557	S22	E37	.658	16025	24.0	28	1B		C	0538	221	3.0	F
ABST	21	0530	0532	0546D	S21	E37	.653	16025	24.0	16D	-N		P	0532	87	1.2	DJ
MITK	21	0530	0543	0617	S22	E38	.669	16025	24.1	47	-F		C	0543			EH
ABST	21	0558	0603	0615	S21	E37	.653	16025	24.0	17	-F		C	0603	87	1.2	D
718 CULG	21	0626E	0626E	0632U	S17	W88	.999	16005	14.7	6D	-N		P	0626	30		Y5
GRP74719	21	0825+5	0828 0835	0842	S21	E36	.641	16025	24.1	17	-F						EJ
ABST	21	0825	0828	0842	S21	E37	.653	16025	24.1	17	-F		C	0828	87	1.2	EJ
MONT	21	0830	0835	0842	S21	E35	.630	16025	24.0	12	-F		C	0835	50		
GRP74720	21	0845+2	0848+2	0901	S21	E34	.618	16025	23.9	16	-N				60	.8	DV
HTPR	21	0845	0850	0900	S22	E34	.624	16025	23.9	15	-N		C	0850	40	.5	E
ABST	21	0847	0848	0901	S21	E38	.664	16025	24.2	14	-N		C	0848	87	1.2	DV
MONT	21	0847	0850	0902	S21	E35	.630	16025	24.0	15	-F		C	0850	50		D
KANZ	21	0849E	0849	0904	S21	E34	.618	16025	23.9	15D	-N	1					E
KHAR	21	0854E	0854	0901D	S21	E33	.607	16025	23.8	7D	-F		P				D
721 ABST	21	0848	0854	0907	S32	E90	1.000	16034	28.1	19	?F		C	0854	87		D Y5
	IMP.1 NO 1		HTPR	CATA	MONT	KANZ											
722 CATA	21	0850	0850	0903	N06	E38	.626	0	24.2	10	-B	1	C	0850	45	.5	Y5
GRP74723	21	1148+3	1155	1204	S21	E32	.595	16025	23.9	16	-F						D
KANO	21	1148		1204D	S21	E32	.595	16025	23.9	16D	-F		C		42	.5	D
ZURI	21	1151	1155	1203	S21	E33	.607	16025	24.0	12	-F		C	1155	100	1.3	
GRP74724	21	1218+3	1221+0 1227	1233	N25	E10	.480	16024	22.3	15	-N						E
HTPR	21	1218	1227	1238	N25	E13	.480	16024	22.3	20	-F		C	1227	56	.5	E
KANZ	21	1221	1221	1231	N26	E10	.494	16024	22.3	10	-N	2					
ZURI	21	1221	1221	1233	N25	E10	.480	16024	22.3	12	-N		C	1221	140	1.7	
GRP74725	21	1220+4	1225 1230+6	1243	S21	E32	.595	16025	23.9	23	-N				140	1.7	EKU
CATA	21	1215E	1230	1235D	S22	E31	.590	16025	23.8	20D	-N	*	P	1230	112	1.3	
HTPR	21	1220	1225	1240	S22	E32	.601	16025	23.9	20	-N	*	C	1225	80	.9	E
ZURI	21	1221	1231	1239	S21	E33	.607	16025	24.0	18	-N	*	C	1231	110	1.3	
LVOV	21	1224	1236	1245	S21	E31	.583	16025	23.8	21	1N	*	C	1236	200	2.5	EK
KANZ	21	1224	1231	1247	S21	E32	.595	16025	23.9	23	-N	*					U
GRP74726	21	1328+5	1332+1	1341	S21	E32	.595	16025	24.0	13	-N				40	.5	E
HTPR	21	1328	1332	1340	S22	E31	.590	16025	23.9	12	-N		C	1332	30	.3	E
ZURI	21	1329	1333	1341	S21	E32	.595	16025	24.0	12	-F		C	1333	50	.7	
KANZ	21	1333	1333	1345	S21	E32	.595	16025	24.0	12	-N	2					
GRP74727	21	1356+5	1405+4	1420	S21	E32	.595	16025	24.0	24	-N				60	.7	E
HCMA	21	1356E	1406	1425	S22	E33	.613	16025	24.1	29D	-N		C	1406	60	.7	E
KANZ	21	1357	1408	1420	S21	E32	.595	16025	24.0	23	-N	2					
HTPR	21	1400	1409	1416	S22	E32	.601	16025	24.0	16	-F		C	1409	20	.2	E
ZURI	21	1401	1405	1413D	S21	E32	.595	16025	24.0	12D	-N		P	1405	60	.8	
GRP74728	21	1408+2	1411+1	1426	S22	E48	.774	16030	25.2	18	-F						
KANZ	21	1408	1412	1428	S22	E49	.784	16030	25.3	20	-F	2					D
HCMA	21	1410	1411	1424	S23	E47	.768	16030	25.1	14	-N	*	C	1411	65	1.1	E
GRP74729	21	1442+4	1448+2	1503	S21	E31	.583	16025	23.9	21	-B				90	1.1	EU
KANZ	21	1442	1450	1504	S21	E31	.583	16025	23.9	22	-N	2					
HTPR	21	1443	1448	1500	S22	E31	.590	16025	23.9	17	-B		C	1448	80	.9	E
BIGB	21	1445	1448	1502	S21	E30	.572	16025	23.9	17	-B	3	C	1448	60	.7	
HCMA	21	1445	1449	1500	S23	E33	.619	16025	24.1	15	-N		C	1449	80	1.0	E
HOLL	21	1446	1448	1545	S21	E31	.583	16025	23.9	59	-B	3	C		127		U F
ZURI	21	1447E	1449	1505	S21	E32	.595	16025	24.0	18D	-B		P	1449	100	1.3	
GRP74730	21	1550+3	1601+4	1615	S21	E30	.572	16025	23.9	25	-B				40	.5	
KANZ	21	1550	1601	1617	S20	E31	.577	16025	24.0	27	-N	2					
BIGB	21	1553	1604	1615	S21	E30	.572	16025	23.9	22	-B	3	C	1604	40	.5	
HOLL	21	1553	1605	1615	S21	E30	.572	16025	23.9	22	-B	3	C		43		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP74731	21	1634+6	1642+2	1656	N19	E54	.839	16031	25.7	24	-B				40	.7	E
WEND	21	1634E		1656D	N14	E58	.863	16031	26.0	240	-N		V				E
BIGB	21	1639	1643	1702	N18	E54	.837	16031	25.7	23	-B	3	C	1643	40	.7	
HTPR	21	1639	1642	1657	N19	E55	.848	16031	25.8	18	-N		C	1642	40	.7	E
KANZ	21	1639	1643	1658	N19	E54	.839	16031	25.7	19	-B	2					E
MCMA	21	1640	1644	1656	N19	E54	.839	16031	25.7	16	-B		C	1644	40	.8	E
GRP74732	21	1654+0	1654+1	1703	S19	E35	.619	16030	24.3	9	-F						E
MCMA	21	1654E	1655	1700	S20	E35	.624	16030	24.3	60	-N		C	1655	30	.4	E
KANZ	21	1654	1654	1706	S19	E36	.631	16030	24.4	12	-F	2					
GRP74733	21	1734+9	1736 1745	1752	S21	E29	.560	16025	23.9	18	-N						
BIGB	21	1734	1736	1754	S21	E30	.572	16025	24.0	20	-N	3	C	1736	50	.6	
PALE	21	1745	1745	1749	S22	E28	.556	16025	23.8	4	-N	3	C		24		DE
734 BIGB	21	1806	1807	1813	S33	E80	.986	16034	27.8	7	-B	3	C	1807	30		Y5
735 BIGB	21	1811	1813	1824	S21	E29	.560	16025	23.9	13	-N	3	C	1813	20	.2	Y5
736 BIGB	21	1854	1859	1916	N20	W53	.833	16033	17.8	22	-F	3	C	1859	20	.3	F Y5
737 BIGB	21	1915	1920	1936	S21	E30	.572	16025	24.1	15	-N	3	C	1920	30	.4	Y5
738 PALE	21	2006	2006	2010	S22	E27	.545	16025	23.9	4	-N	3	C		36		DE Y5
GRP74739	21	2033+1	2036+2	2055	S21	E29	.560	16025	24.0	22	-B				50	.6	FH
HOLL	21	2033	2037	2059	S21	E28	.548	16025	24.0	26	-B	3	C		55		F
BIGB	21	2033	2038	2050	S21	E30	.572	16025	24.1	17	-B	3	C	2038	50	.6	
MCMA	21	2034	2037	2047	S23	E30	.586	16025	24.1	13	-B		C	2037	40	.5	E
PALE	21	2034	2036	2147D	S22	E27	.545	16025	23.9	730	-B	3	C		59		F H
740 BIGB	21	2043	2044	2051	S21	E41	.697	16030	24.9	8	-N	3	C	2044	20	.3	Y5
GRP74741	21	2117+2	2119+2	2128	S30	E37	.706	16026	24.7	11	-N				20	.3	H
VORO	21	2117	2119	2124	S30	E37	.706	16026	24.7	7	-N		C	2119	108	1.5	EH
BIGB	21	2118	2119	2128	S32	E37	.719	16026	24.7	10	-N	3	C	2119	20	.3	
HOLL	21	2119	2121	2128	S30	E37	.706	16026	24.7	9	-N	3	C		20		F
742 VORO	21	2157	2158	2203	S20	E26	.517	16025	23.9	6	-N		C	2158	54	.6	D Y5
GRP74743	21	2221+1	2224+5	2233	S20	E25	.505	16025	23.8	12	-N						EH
VORO	21	2221	2224	2234	S20	E26	.517	16025	23.9	13	-N		C	2224	134	1.5	EH
CULG	21	2222	2224	2232	S22	E25	.522	16025	23.8	10	-N		C	2224	80	1.0	
HOLL	21	2222	2229	2233	S20	E25	.505	16025	23.8	11	-B	3	C		39		
744 CULG	21	2315	2339	2346	S29	W44	.764	16021	18.7	31	-F		C	2339	10	.2	Y5
745 HOLL	21	2342	2414	0108	S22	E39	.680	16030	24.9	86	-B	3	C		82		U F Y5
746 CULG	22	0043	0053	0137	S22	E26	.534	16025	24.0	54	-F		C	0053	100	1.2	FT Y5
GRP74747	22	0132+9	0144+1	0158	N15	W90	1.000	16014	15.3	26	-N				40		E
CULG	22	0132	0145	0203	N15	W90	1.000	16014	15.3	31	-N		C	0145	30		
VORO	22	0141	0144	0152	N15	W90	1.000	16014	15.3	11	-N		C	0144	45		E
GRP74748	22	0144+1	0145+2	0158	S21	E22	.481	16025	23.7	14	-N				50	.6	E
CULG	22	0144	0147	0203	S22	E22	.490	16025	23.7	19	-N		C	0147	50	.6	T
VORO	22	0145	0145	0152	S20	E23	.483	16025	23.8	7	-N		C	0145	54	.6	E
749 CULG	22	0159	0206	0221	N30	E04	.532	16024	22.4	22	-F		C	0206	60	.7	Y5
GRP74750	22	0209+1	0216+3	0235	N24	W32	.649	16012	19.7	26	1N				160	2.1	EJ
CULG	22	0159	0216	0251	N24	W33	.659	16012	19.6	51	1N	*	C	0216	160	2.1	
VORO	22	0209	0217	0235	N24	W32	.649	16012	19.7	26	1F	*	C	0217	197	2.6	EJ
MITK	22	0210	0219	0232	N24	W32	.649	16012	19.7	22	-N	*	C	0219			E
PALE	22	0217E	0219	0229D	N23	W32	.641	16012	19.7	120	-N	*	C		35		DE
751 CULG	22	0227	0234	0307	S21	E31	.584	16030	24.4	40	-N		C	0234	70	.9	T Y5
GRP74752	22	0256	0310	0331	N14	W90	1.000	16014	15.4	35	-B						
CULG	22	0256	0310	0327	N15	W90	1.000	16014	15.4	31	-B		C	0310	40		
KODA	22	0322E	0333D	0335	N14	W90	1.000	16014	15.4	130	-N		P	0322			
753 CULG	22	0450	0452	0514	N20	E54	.841	16031	26.3	24	-N		C	0452	30	.6	Y5
754 CULG	22	0500	0502	0508	S23	E26	.543	16025	24.2	8	-F		C	0502	30	.4	T Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
755 ABST	22	0641	0646	0707	N24	W01	.437	16024	22.2	26	-F		C	0646	61	.7	DJ	Y5
756 KHAR	22	0850E		0920D	S23	E20	.480	16025	23.9	30D	-F		P				E	Y5
757 KHAR	22	0920E	0932	0940D	S30	W30	.643	0	20.1	20D	-F		V	0932			DH	Y5
758 KHAR	22	0940E		1000D	S23	E20	.480	16025	23.9	20D	-F		V	1000			E	Y5
GRP74759	22	1002	1006+3	1022	N23	W90	1.000	16007	15.7	20	-F						DH	
MONT	22	1002	1009	1022	N24	W90	1.000	16007	15.7	20	-F		C	1009	40		D	
KHAR	22	1005E	1006	1020D	N22	W90	1.000	16007	15.7	15D	-N		V	1006			H	
760 CATA	22	1030E	1030	1040	N17	E33	.611	16031	24.9	10D	-N	2	P	1030	56	.7		Y5
GRP74761	22	1110+5	1112+9 1149	1235	S21	E35	.631	16030	25.1	85	2N				370	4.7	IKU	
HTPR	22	1110	1112	1215	S20	E35	.625	16030	25.1	65	1B	*	C	1112	500	5.5	EIU	
WEND	22	1111	1149	1242	S19	E38	.655	16030	25.3	91	2N		C		670	6.9		
KHAR	22	1111E	1114	1237D	S21	E33	.608	16030	24.9	86D	2N	*	P	1113	400	6.0	E	
MONT	22	1111	1115	1220D	S21	E35	.631	16030	25.1	69D	1N	*	C	1115	250			
KANZ	22	1113	1117	1242	S20	E36	.637	16030	25.2	89	2B	3					FU	
CATA	22	1115	1120	1235	S22	E34	.625	16030	25.0	80	1N	*	C	1120	337	4.3		
MCMA	22	1116E		1250	S21	E35	.631	16030	25.1	92D	2N	*	C	1147	400	5.3	BFKU	
GRP74762	22	1139	1159+4	1255	S30	W52	.836	16021	18.6	76	-F						D	
MCMA	22	1139	1203	1255	S31	W51	.831	16021	18.7	76	-F		C	1203	20	.4	D	
KHAR	22	1159E	1159	1200D	S30	W53	.843	16021	18.5	1D	-F		P				D	
763 CATA	22	1145E	1150	1225	N18	E32	.605	16031	24.9	40D	?N	2	P	1150	224	3.0		Y5
	IMP.1 NO : MONT			WEND	HTPR	KANZ	MCMA											
GRP74764	22	1145+7	1200+3	1231	S21	E17	.427	16025	23.8	46	-N				60	.7	EG	
KHAR	22	1145E		1207D	S22	E17	.439	16025	23.8	22D	-F	*	P				E	
MONT	22	1148	1201	1220D	S22	E18	.449	16025	23.8	32D	-N	*	C	1201	80		E	
MCMA	22	1150E	1203	1255	S22	E18	.449	16025	23.8	65D	-N	*	C	1203	60	.7	E	
KANZ	22	1151	1203	1230	S21	E17	.427	16025	23.8	39	-F	*					G	
HTPR	22	1152	1200	1206	S21	E17	.427	16025	23.8	16	-N	*	C	1200	30	.3		
WEND	22	1200		1242	S21	E17	.427	16025	23.8	42	1N	*	C		290	3.0		
GRP74765	22	1150E	1154	1227D	N26	W01	.468	16024	22.4	37	-F						E	
MCMA	22	1150E	1154	1220D	N26	W02	.469	16024	22.3	30D	-F		C	1154	30	.3	E	
KHAR	22	1159E		1227D	N27	W01	.483	16024	22.4	28D	-F		P					
GRP74766	22	1220+7	1223+7	1242	N24	W41	.737	16012	19.4	22	-F						EJ	
KHAR	22	1220E	1223	1237D	N23	W37	.692	16012	19.7	17D	-F		P				E	
MCMA	22	1221	1227	1239	N24	W42	.747	16012	19.4	18	-N		C	1227	50	.7	E	
KANZ	22	1223	1230	1242	N25	W41	.743	16012	19.4	19	-N	2						
LVOV	22	1227	1230	1242	N24	W41	.737	16012	19.4	15	1F		C	1230	150	2.3	DJ	
GRP74767	22	1246+4	1305+6	1320	S33	E71	.957	16034	27.9	34	-N						EGU	
KANZ	22	1246	1305	1317	S33	E72	.961	16034	27.9	31	-N	2					U	
MCMA	22	1250	1307	1318	S34	E74	.969	16034	28.1	28	-B		C	1307	20	.8	E	
WEND	22	1305E		1321D	S34	E70	.953	16034	27.8	16D	-N		C				D	
LVOV	22	1308	1311	1322	S33	E70	.952	16034	27.8	14	1F		C	1311	150		EG	
768 MCMA	22	1347	1351	1359	S22	E22	.490	16025	24.2	12	-N		C	1351	30	.4	E	Y5
GRP74769	22	1906+1	1909+0	1919	N25	W45	.779	16012	19.4	13	-N				50	.8	E	
BIGB	22	1906	1909	1924	N25	W45	.779	16012	19.4	18	-N	3	C	1909	70	1.0		
MCMA	22	1907	1909	1914	N25	W45	.779	16012	19.4	7	-N		C	1909	40	.7	E	
770 CULG	22	2214	2230	0032	N20	E40	.706	16031	25.9	138	-F		C	2230	70	1.0	L	Y5
GRP74771	22	2223+2	2227+2	2233	S34	E66	.935	16034	27.9	10	-N				40		E	
CULG	22	2223	2229	2251	S34	E64	.924	16034	27.7	28	-F		C	2229	50			
BIGB	22	2224	2227	2233	S34	E66	.935	16034	27.9	9	-N	3	C	2227	30			
VORO	22	2225	2227	2232	S33	E68	.943	16034	28.0	7	-N		C	2227	54		E	
GRP74772	22	2228+7	2237+2	2254	N27	W08	.498	16024	22.3	26	-N				50	.6	EJ	
CULG	22	2228	2237	2319	N27	W08	.498	16024	22.3	51	-N		C	2237	160	1.8		
BIGB	22	2233	2237	2255	N26	W10	.493	16024	22.2	22	-F	3	C	2237	30	.3		
VORO	22	2234	2239	2252	N28	W08	.513	16024	22.3	18	-N		C	2239	45	.5	EJ	
HOLL	22	2235	2237	2250	N29	W07	.524	16024	22.4	15	-N	3	C		57			
773 CULG	22	2336	2340	2345	N27	W42	.763	16012	19.8	9	-F		C	2340	20	.3		Y5
774 BIGB	23	0001	0005	0021	S22	E16	.431	16025	24.2	20	-N	3	C	0005	30	.3		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONC	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP74775	23	0045+2	0047+1	0055	N25	W49	.814	16012	19.4	10	-N				70	1.2	E
CULG	23	0045	0047	0106	N25	W47	.796	16012	19.5	21	-N		C	0047	70	1.2	
BIGB	23	0046	0047	0055	N23	W49	.806	16012	19.4	9	-N	3	C	0047	20	.3	E
VORO	23	0047	0048	0052	N26	W50	.826	16012	19.3	5	-N		C	0048	81	1.4	E
GRP74776	23	0152>9	0156 0206	0213	N25	W11	.482	16024	22.3	21	-F				50	.6	EJ
VORO	23	0152	0156	0210	N28	W10	.519	16024	22.3	18	-N		C	0206	54	.6	EJ
CULG	23	0204	0206	0215	N23	W12	.460	16024	22.2	11	-F		C	0206	50	.6	
777 CULG	23	0253	0256	0301	S31	W59	.889	16021	18.7	8	-F		C	0256	50	1.1		Y5
778 CULG	23	0326	0331	0345	S23	E25	.533	16030	25.0	19	-F		C	0331	10	.1		Y5
779 ABST	23	0534	0536	0540D	N24	E14	.487	C	24.3	60	-N		P	0536	131	1.6	EJ	Y5
780 TACH	23	0537	0539	0558	S17	E16	.373	16030	24.4	21	-F		C	0542	88	.9	D	Y5
GRP74781	23	0537+1	0544+4	0624D	S30	W58	.880	16021	18.9	47	1F				160	3.4	EJ	
TACH	23	0537	0548	0615D	S30	W59	.887	16021	18.8	38D	-F	*	C	0548	133	3.0	E	
ABST	23	0538	0544	0624D	S31	W58	.883	16021	18.9	46D	1N	*	P	0544	192	4.1	EJ	
782 WEND	23 IMP.1	0602E NO 1 TACH		0617 ABST	S29	E60	.892	16032	27.8	15D	?N		C		290	3.0	D	Y5
783 ABST	23	0629	0633	0646	S33	E60	.900	16034	27.8	17	-F		C	0633	87	2.0	FJ	Y5
GRP74784	23	0719	0724+5	0737	S20	E17	.417	16030	24.6	18	-N						EJ	
ABST	23	0719	0724	0739	S20	E17	.417	16030	24.6	20	-N		C	0724	148	1.7	EJ	
ATHN	23	0727E	0728	0737	S21	E15	.409	16030	24.4	10D	-N	3		0728	33	.4		
KANZ	23	0729	0729	1737	S20	E18	.428	16030	24.7	8	-N	1					E	
GRP74785	23	0833+1	0835+3	0843	N18	E34	.628	16031	25.9	10	-F				100	1.3	E	
ABST	23	0833	0835	0840	N17	E34	.621	16031	25.9	7	-F		P	0835	87	1.2	E	
ZURI	23	0833	0835	0845	N22	E35	.664	16031	26.0	12	-F		C	0835	120	1.6		
KANZ	23	0834	0838	0850	N19	E32	.611	16031	25.8	16	-N	2					F	
MONT	23	0834	0835	0839	N18	E35	.639	16031	26.0	5	-N		C	0835	80		E	
GRP74786	23	1024+4	1027+5	1044	N18	E33	.616	16031	25.9	20	-N				110	1.4	EH	
KHAR	23	1024	1029	1049D	N18	E33	.616	16031	25.9	25D	-F		P	1028	150	1.8	DHT	
MONT	23	1026	1031	1040	N18	E34	.628	16031	26.0	14	-N		C	1031	80		E	
ZURI	23	1027	1027	1037	N22	E34	.654	16031	26.0	10	-N		C	1027	100	1.4		
KANZ	23	1028	1032	1047	N19	E32	.611	16031	25.8	19	-N	2					E	
787 KHAR	23	1110E	1115	11180	N13	E30	.548	16031	25.7	80	-F		V	1110			T	Y5
GRP74788	23	1131+0	1132 1152+3	1206	N19	E33	.623	16031	26.0	35	1N						EH	
KANZ	23	1131	1146	1213	N20	E32	.618	16031	25.9	42	1N	2						
ZURI	23	1131	1153	1209	N22	E34	.654	16031	26.0	38	1N		C	1153	180	2.5		
MONT	23	1131	1132	1137	N21	E35	.658	16031	26.1	6	-F		C	1132	50		E	
KHAR	23	1144E	1155	12080	N19	E32	.611	16031	25.9	240	1F		P	1154	400	5.0	EHT	
MONT	23	1146	1152	12000	N18	E33	.616	16031	26.0	140	-N		C	1152	60		E	
HTPR	23	1148	1154	1158	N18	E35	.639	16031	26.1	10	-F		C	1154	20	.2		
GRP74789	23	1240	1243+2	1252	N28	W15	.546	16024	22.4	12	-N						D	
CATA	23	1240	1245	1250	N29	W14	.553	16024	22.5	10	-B	2	C	1245	28	.3		
KHAR	23	1243E	1243	12530	N28	W16	.552	16024	22.3	100	-F		P				D	
GRP74790	23	1349+7	1359	1408	N24	W53	.844	16012	19.6	19	-F							
ZURI	23	1349	1407	1407	N24	W53	.844	16012	19.6	18	-F		P	1407	120	2.3		
KANZ	23	1351	1359	1408	N24	W51	.827	16012	19.8	17	-N	3						
HUAN	23	1356		1413	N23	W53	.841	16012	19.6	17	-F	1	C					
GRP74791	23	1404+2	1404+3	1417	S20	E13	.378	16030	24.6	13	-N				60	.6	EIJ	
HTPR	23	1404	1404	1416	S19	E12	.356	16030	24.5	12	-N		C	1404	50	.6	E	
LVOV	23	1405	1407	1416	S20	E13	.378	16030	24.6	11	-F		C	1407	150	1.6	EIJ	
KANZ	23	1406	1406	1419	S20	E14	.388	16030	24.6	13	-B	3					E	
HUAN	23	1406	1407	1417D	S20	E14	.388	16030	24.6	11D	-N	2	C	1407	50	.5	E	
ZURI	23	1407E	1407	1419	S20	E13	.378	16030	24.6	12D	-N		P	1407	70	.8		
GRP74792	23	1424		1444	N23	W52	.832	16012	19.7	20	-F						E	
HUAN	23	1424		1443	N23	W53	.841	16012	19.6	19	-F	*	C					
MCMA	23	1430E		1440D	N25	W52	.839	16012	19.7	10D	-F	*	P	1431	40	.8	E	
KANZ	23	1431E		1445	N23	W52	.832	16012	19.7	14D	-F	*						

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP74793	23	1424+7	1436	1439	N17	E30	.574	16031	25.8	15	-F						D	
HUAN	23	1424		1438	N17	E30	.574	16031	25.9	14	-N	1	C					
MCMA	23	1431	1436	1440D	N18	E30	.581	16031	25.9	9D	-F		P	1436	25	.3	D	
794 MCMA	23	1707	1710	1730D	N16	W24	.494	16020	21.9	23D	-F		C	1710	40	.4	E	Y5
GRP74795	23	1738+1	1741+0	1749	S20	E14	.388	16030	24.6	11	-N				25	.3	E	
MCMA	23	1738	1741	1754D	S22	E18	.450	16030	25.1	12D	-N		C	1741	30	.3	E	
PALE	23	1739	1741	1748	S19	E11	.347	16030	24.6	9	-N	3	C		20		DE	
796 MCMA	23	1754E	1754	1800	S34	E53	.857	16034	27.7	6D	-B		C	1754	15	.3	D	Y5
797 MCMA	23	1835	1836	1840	S17	W32	.573	16023	21.4	5	-F		C	1836	40	.5	E	Y5
798 HOLL	23	1920	1921	1930	S19	W33	.597	16023	21.3	10	-N	3	C		52			Y5
799 BIGB	23	2032	2039	2107	N17	E26	.527	16031	25.8	35	-N	3	C	2039	60	.7		Y5
800 BIGB	23	2043	2057	2201	S32	E90	1.000	16040	30.6	78	-N	3	C	2057	40			Y5
GRP74801	23	2209+2	2212+1	2226	N25	W55	.862	16012	19.8	17	-N				90	1.8	D	
BIGB	23	2209	2212	2231	N25	W55	.862	16012	19.8	22	-N	2	C	2212	60	1.1		
VORO	23	2211	2213	2220	N25	W56	.870	16012	19.7	9	1F		C	2213	134	2.8	D	
GRP74802	23	2253+3	2257+1	2308	S32	E49	.820	16034	27.6	15	-N				40	.7	D	
CULG	23	2253	2258	2312	S33	E48	.816	16034	27.6	19	-N		C	2258	30	.5		
VORO	23	2256	2257	2303	S32	E51	.835	16034	27.8	7	-N		C	2257	54	1.0	D	
803 CULG	23	2318	2346	0019	S34	E86	.997	16040	30.4	61	-N		C	2346	50		K	Y5
GRP74804	23	2320+1	2322+3	2346	N24	W56	.867	16012	19.8	26	-N				30	.6	D	
CULG	23	2320	2325	2350	N24	W55	.859	16012	19.8	30	-N		C	2325	20	.4	T	
VORO	23	2321	2322	2338	N25	W56	.870	16012	19.8	17	-N		C	2322	45	.9	D	
BIGB	23	2321	2322	2346	N24	W56	.867	16012	19.8	25	-N	2		2322	20	.4		
805 CULG	24	0111	0119	0136	S31	E85	.996	16040	30.4	25	-F		C	0119	20			Y5
GRP74806	24	0114+0	0115+4	0131	N25	W57	.877	16012	19.8	17	1F				100	2.1		
CULG	24	0114	0119	0138	N25	W57	.877	16012	19.8	24	-N		C	0119	80	1.9		
VORO	24	0114	0115	0124	N25	W58	.884	16012	19.7	10	1F		C	0115	125	2.7		
807 CULG	24	0125	0127	0145	N22	W90	1.000	16033	17.3	20	-N		C	0127	30			Y5
808 CULG	24	0143	0156	0206	S21	E07	.351	16030	24.6	23	-N		C	0156	40	.4		Y5
809 CULG	24	0231	0239	0337	S34	E46	.806	16034	27.6	66	-F		C	0239	30	.5	K	Y5
810 CULG	24	0245	0256	0310	S31	E85	.996	16040	30.5	25	-F		C	0256	30			Y5
811 CULG	24	0341	0414	0453	N24	W26	.588	16024	22.2	69	-N		C	0414	50	.6	L	Y5
812 CULG	24	0400	0417	0453	S17	E04	.273	16030	24.5	53	-N		C	0417	70	.7	F	Y5
813 CULG	24	0423	0425	0507	S35	E44	.796	16034	27.5	44	-F		C	0425	20	.4		Y5
814 CULG	24	0501	0515	0559	N23	W62	.907	16012	19.6	58	-F		C	0515	30	.7		Y5
815 ABST	24	0606	0609	0618D	N11	W44	.714	16020	21.0	12D	-F		P	0609	87	1.2	D	Y5
816 ABST	24	0659	0703	0712	S22	W03	.351	16025	24.1	13	-F		C	0703	87	1.0	D	Y5
GRP74817	24	0714+6	0716 0725	0759	S18	E01	.282	16030	24.4	45	-N							
ABST	24	0714	0716	0725D	S17	E03	.269	16030	24.5	11D	-N		P	0716	175	1.8	E	
WEND	24	0716E		0757D	S18	E02	.283	16030	24.5	41D	-N		C				D	
CATA	24	0720	0725	0740D	S19	W02	.300	16030	24.2	20D	-N	2	P	0725	112	1.1		
KANZ	24	0735E		0759	S18	E01	.282	16030	24.4	24D	-N	1						
ABST	24	0744E	0745	0759	S17	E03	.269	16030	24.5	15D	-F		P	0745	87	1.0	D	
818 KANZ	24	0751	0807	0836	N25	E78	.984	16041	30.2	45	-N	2						Y5
819 KANZ	24	0848	0852	0911	N22	E21	.520	16031	25.9	23	-F	2						Y5
820 KHAR	24	0850E	0852	0906D	N14	W46	.745	16020	20.9	16D	-N		P	0906	130	2.0	EH	Y5
821 KANZ	24	0911	0922	0946	N11	W45	.725	16020	21.0	35	-F	2						Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
822 KHAR	24	0926E		0933D	S30	W80	.986	16021	18.4	7D	-F		P				E	Y5
823 KHAR	24	1000E		1025D	N24	E52	.835	16036	28.3	25D	-F		P				E	Y5
GRP74824	24	1010+4	1016+4	1036	S23	W04	.370	16025	24.1	26	-N				160	1.7	HI	
KIEV	24	1010E	1019	1040D	S22	W04	.354	16025	24.1	30D	1N		C	1019	200	2.2	DI	
CATA	24	1010	1020	1050	S24	W05	.389	16025	24.0	40	-B	2	C	1020	140	1.5		
MONT	24	1013	1016	1029	S23	W03	.367	16025	24.2	16	-N		C	1016	110		H	
KANZ	24	1013	1017	1037	S24	W05	.389	16025	24.1	24	-N	2						
KHAR	24	1014	1017	1032	S23	W04	.370	16025	24.1	18	-N		P	1021	200	2.2		
WEND	24	1018E		1027D	S23	W01	.364	16025	24.4	9D	-N		C				3E	
825 KHAR	24	1144E		1203D	N14	W47	.756	16020	21.0	16D	-F		V	1146				Y5
826 LVOV	24	1223	1224	1233	S24	W06	.392	16025	24.1	10	?F		C	1224	200	2.3	J	Y5
	IMP.1 NO : KANZ				CATA	KIEV	MONT											
GRP74827	24	1256+6	1302+5	1329	S17	W03	.269	16030	24.3	33	-F				120	1.2	DIJ	
KANZ	24	1256	1305	1313D	S17	W02	.267	16030	24.4	23D	-N	2						
KIEV	24	1258E	1302	1330D	S17	W03	.269	16030	24.3	32D	-F		C	1302	100	1.6	DI	
LVOV	24	1302	1307	1328	S18	W03	.286	16030	24.3	26	-F		C	1307	150	1.6	J	
GRP74828	24	1330+3	1334+0	1350	S23	W06	.377	16025	24.1	20	-N				170	1.8	DIJ	
KIEV	24	1330E	1334	1355D	S22	W06	.361	16025	24.1	25D	1N		C	1334	200	2.2	DI	
KANZ	24	1333	1334	1349	S23	W06	.377	16025	24.1	16	-B	3						
LVOV	24	1333	1334	1350	S24	W06	.392	16025	24.1	17	-F		C	1334	150	1.7	J	
829 LVOV	24	1346	1350	1400	S26	W80	.986	16021	18.6	14	?N		C	1350	150		D	Y5
	IMP.1 NO : KIEV				KANZ													
830 KANZ	24	1508		1521D	N28	W31	.669	16024	22.3	13D	-F	2						Y5
GRP74831	24	1740+1	1741+1	1749	S24	W16	.457	16025	23.5	9	-B				60	.7	HU	
BIGB	24	1740	1741	1750	S25	W15	.461	16025	23.6	10	-B	3	C	1741	70	.7		
PALE	24	1741	1742	1747	S24	W17	.466	16025	23.5	6	-B	3	C		61		U H	
832 BIGB	24	1816	1818J	1825	S23	W08	.386	16025	24.2	9	-F	3	P	1818	30	.3		Y5
833 BIGB	24	1928	1936	1944	N23	E75	.974	16041	30.4	16	-N	3	C	1936	60			Y5
834 VORO	25	0011	0015	0020	S30	E80	.987	16040	31.0	9	-F		C	0015	72		D	Y5
835 CULG	25	0025	0030	0058	S33	E70	.954	16040	30.3	33	?N		P	0030	100			Y5
	IMP.1 NO : BIGB				VORO													
836 CULG	25	0050	0058	0112	N28	W31	.668	16024	22.7	22	-N		P	0058	50	.6		Y5
837 VORO	25	0139	0144	0215	S18	W08	.313	16030	24.5	36	-N		C	0144	125	1.3	E	Y5
838 ABST	25	0600	0604	0642	N23	E10	.445	16031	26.0	42	-F		C	0604	87	1.0	DJ	Y5
839 ABST	25	0625	0657	0715	N13	W29	.533	16029	23.1	50	?F		C	0657	175	2.1	EJ	Y5
	IMP.1 NO : HITK				HTPR	CATA	KAND											
840 ABST	25	0721	0723	0726	S30	W07	.488	16026	24.8	5	-F		C	0723	157	1.8	DJ	Y5
GRP74841	25	0726+4	0730	0758	S18	W12	.346	16030	24.4	32	-F				90	1.0	EJ	
			0736+4															
ABST	25	0726	0736	0800	S18	W11	.337	16030	24.5	34	-N		C	0736	175	1.8	FJ	
CATA	25	0730	0730	0755	S18	W11	.337	16030	24.5	25	-N	2	C	0730	84	.9		
HTPR	25	0730	0740	0755	S18	W12	.346	16030	24.4	25	-F		C	0740	30	.3	E	
BUCA	25	0732E		0800	S18	W12	.346	16030	24.4	28D	-F		P	0735	107	1.2	E	
KHAR	25	0748E	0748	0805D	S18	W13	.356	16030	24.4	17D	-F		P					
GRP74842	25	0749	0753	0811D	S32	E65	.928	16040	30.2	22	1F						DJ	
			0800															
ABST	25	0749	0753	0800D	S31	E67	.937	16040	30.4	11D	1F		P	0753	87		DJ	
KHAR	25	0754E	0800	0811D	S33	E63	.919	16040	30.1	17D	-F		P				D	
GRP74843	25	0850+9	0932	0945D	N13	W32	.572	16029	23.0	55	-F						DHJ	
KHAR	25	0850E		0945D	N14	W33	.591	16029	22.9	55D	-F		V	0850			HT	
ABST	25	0931	0932	0941D	N13	W31	.559	16029	23.1	10D	-F		P	0932	87	1.1	DJ	
GRP74844	25	0913	0914	0933	N23	E69	.948	16041	30.6	20	1F						D	
ABST	25	0913	0914	0930	N23	E69	.948	16041	30.6	17	1F		C	0914	87		D	
KHAR	25	0917E		0935D	N23	E69	.948	16041	30.6	18D	-F		V	0917				

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
845 KHAR	25	0925E	0925	0928D	S33	E63	.919	16040	30.1	3D	-F		P				D	Y5
846 KHAR	25	0950E	0951	1006D	N15	W34	.608	16029	22.9	16D	-F		V	1006			T	Y5
GRP74847	25	1021E		1127	N14	W33	.591	16029	23.0	66	-N						EH	
KHAR	25	1021E		1105D	N15	W34	.608	16029	22.9	44D	-N		P	1023			HT	
KAND	25	1028D		1127	N13	W33	.585	16029	23.0	59D	-N		C		52	.7	E	
848 KHAR	25	1033E	1039	1050D	N14	W58	.862	16020	21.1	17D	-F		V	1039			H	Y5
849 KHAR	25	1105E		1115D	N17	E08	.344	16031	26.1	10D	-F		V	1105				Y5
GRP74850	25	1130	1136	1149	N14	W59	.870	16020	21.1	19	-N						E	
KAND	25	1130	1136	1149	N14	W60	.878	16020	21.0	19	-N		C		42	.9	E	
KHAR	25	1134E		1148D	N14	W58	.862	16020	21.1	14D	-N		P	1134				
851 KHAR	25	1142E		1148D	S33	E67	.940	16040	30.5	6D	-F		P	1148				Y5
GRP74852	25	1201+3	1207+7	1221	N22	E05	.407	16031	25.9	20	1F						E	
KHAR	25	1201E	1211	1221D	N20	E05	.376	16031	25.9	20D	-F		P				E	
KAND	25	1204	1207	1221	N22	E05	.407	16031	25.9	17	1N		C		197	2.3	E	
ZURI	25	1212E	1214	1218	N22	E06	.411	16031	26.0	6D	1F		P	1214	220	2.5		
853 HUAN	25	1254		1307	N14	W35	.616	16029	22.9	13	-F	1	C					Y5
GRP74854	25	1329+1	1330+0	1338	N12	W33	.580	16029	23.1	9	-F						E	
KAND	25	1329	1330	1337	N12	W33	.580	16029	23.1	8	-N		C		42	.5	E	
ZURI	25	1330	1330	1338	N13	W33	.585	16029	23.1	8	-F		C	1330	110	1.4		
GRP74855	25	1406+0	1414+0	1431	S17	W16	.376	16030	24.4	25	-N				40	.4	D	
ZURI	25	1406	1414	1436	S17	W16	.376	16030	24.4	30	-N		C	1414	100	1.1		
HUAN	25	1406	1414	1430	S16	W16	.365	16030	24.4	24	-N	1	C	1414	25	.3	D	
BIGB	25	1418E	1418	1431	S17	W14	.354	16030	24.5	13D	-N	3	P	1418	40	.4		
GRP74856	25	1415+1	1416+0	1420	S33	E66	.935	16040	30.5	5	-N						D	
HUAN	25	1415	1416	1420	S34	E66	.936	16040	30.5	5	-N	2	C	1416	20	.2	D	
ZURI	25	1416	1416	1420	S32	E67	.938	16040	30.6	4	-B		C	1416	40			
BIGB	25	1417E	1417U	1421	S33	E64	.924	16040	30.4	4D	-N	3	P	1417	80	1.9		
857 HUAN	25	1604		1612	N14	W34	.603	16029	23.1	8	-F	1	C	1606	15	.2	D	Y5
	25	1753	1809	NO FLARE PATROL														
858 BIGB	25	1824	1826	1826D	S32	E64	.923	16040	30.6	2D	-B	3	P	1826	50	1.2		Y5
859 VORO	26	0001	0002	0006	N13	E60	.876	16041	30.5	5	-F		C	0002	90	1.7	DG	Y5
860 VORO	26	0046	0047	0052	S30	W18	.549	16026	24.7	6	-F		C	0047	134	1.4	E	Y5
861 VORO	26	0054	0055	0059	N18	W03	.336	16031	25.8	5	-F		C	0055	161	1.6	E	Y5
GRP74862	26	0221	0228+4	0336	N27	W51	.836	16024	22.3	75	1F				150	2.8	EGJ	
VORO	26	0221	0228	0230D	N25	W51	.829	16024	22.3	9D	1F		P	0228	179	3.2	EJ	
MITK	26	0226E		0240D	N27	W51	.836	16024	22.3	14D	-F		C	0228			EG	
CULG	26	0231E	0232	0336	N27	W50	.828	16024	22.4	65D	1N		P	0232	120	2.2		
GRP74863	26	0247+5	0253+2	0340	S32	E23	.609	16034	27.8	53	-N				110	1.4		
CULG	26	0247	0253	0340	S33	E21	.605	16034	27.7	53	-B		C	0253	100	1.3	F	
VORO	26	0252	0255	0300D	S32	E25	.624	16034	28.0	8D	-N		C	0255	116	1.5	D	
864 CULG	26	0254	0308	0345	N19	W03	.352	16031	25.9	51	-N		C	0308	50	.5	F	Y5
865 CULG	26	0257	0306	0328	N13	E56	.842	16041	30.3	31	-F		C	0306	20	.4	K	Y5
866 CULG	26	0301	0306	0327	S33	E59	.895	16040	30.6	26	-N		C	0306	20	.5	KF	Y5
867 CULG	26	0301	0310	0342	S16	W23	.453	16030	24.4	41	-N		C	0310	40	.4	F	Y5
868 CULG	26	0318	0322	0333	N20	E33	.626	16036	28.6	15	-N	*	C	0322	10	.1		Y5
869 ABST	26	0458	0507	0538	N15	W71	.951	16020	20.9	40	?F		C	0507	87		DJ	Y5
	IMP.1 NO # MITK TACH																	
870 ISTA	26	0605		0615	S21	W12	.388	16030	25.4	10	-N						E	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX WEST. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP74871	26	0900+5	0905+2 0913+7	0944	N27	E32	.668	16036	28.8	44	1N						EHKL	
KHAR	26	0900E	0907	0947	N27	E34	.686	16036	28.9	470	1N	*	P	0906	350	4.5	EHKL	
KANZ	26	0902	0913	1001	N26	E31	.651	16036	28.7	59	1N	2					L	
ZURI	26	0903	0905	0915	N26	E30	.641	16036	28.6	12	-N		C	0905	60	.8		
CATA	26	0905	0920	0935	N27	E33	.677	16036	28.9	30	1N	*	C	0920	168	2.5		
ZURI	26	0911	0915	0941	N27	E34	.686	16036	28.9	30	-F	*	C	0915	80	1.2		
872 KHAR	26	0950E		1002D	N14	E38	.652	16041	29.3	120	-F		V	0950			DT	Y5
873 KHAR	26	1033E		1038D	N22	E55	.853	16041	30.6	50	-F		V				EL	Y5
874 KHAR	26	1059E		1128D	S23	W32	.613	16025	24.1	330	-F		V	1056			EL	Y5
875 KAND	26	1144		1159	N14	E37	.648	16041	29.3	15	-F		C		52	.7	D	Y5
876 KAND	26	1157		1218	S22	W34	.629	16025	23.9	21	-F		C		42	.6	D	Y5
877 KAND	26	1256	1258	1302	N11	W73	.959	16020	21.1	6	-N		C					Y5
878 HTPR	26	1330		1350D	S34	E50	.837	16040	30.3	200	-F		C	1336	40	.6	E	Y5
879 BIGB	26	1614	1617	1631	S20	W19	.443	16030	25.3	17	-B	2	C	1617	30	.3	E	Y5
880 BIGB	26	1632	1640	1656	S20	E56	.846	16044	30.9	24	-B	3	C	1640	30	.6	E	Y5
GRP74881	26	1857	1900	1932	N15	E33	.595	16041	29.3	35	-B				110	1.4		
HOLL	26	1857	1900	1932	N14	E33	.590	16041	29.3	35	-B	3	C		144		FDE	
BIGB	26	1903E	1903J	1903D	N16	E33	.601	16041	29.3		-B	3	P	1903	90	1.1		
882 HOLL	26	1942	1943	1954	S21	E56	.848	16044	31.3	12	-F	3	C		17			Y5
883 HOLL	26	2047	2052	2105	N27	W60	.981	16024	22.4	18	-N	3	C		45		DE	Y5
884 HOLL	26	2056	2056	2136D	S16	W24	.466	16030	25.1	100	-N	3	C		29			Y5
	26	2132	2137	NO FLARE PATROL														
	26	0150	0151	NO FLARE PATROL														
	26	0159	0207	NO FLARE PATROL														
	26	0216	0226	NO FLARE PATROL														
885 VORO	27	0126E		0140	S31	E48	.811	16040	30.7	140	-N		C	0126	116	2.0	D	Y5
886 ABST	27	0550	0551	0602	N17	W11	.363	16031	26.4	12	-F		C	0551	87	.9	DJ	Y5
GRP74887	27	0736+6	0743+2	0803	N17	W10	.355	16031	26.6	27	-N						EJ	
KANZ	27	0736E	0743	0748	N17	W11	.363	16031	26.5	120	-F	1						
ABST	27	0742	0745	0817	N18	W10	.369	16031	26.6	35	1N		C	0745	218	2.4	EJ	
GRP74888	27	0751+4	0755+4	0815	S20	E46	.751	16044	30.8	24	-F						GJ	
KANZ	27	0751	0759	0815	S20	E49	.781	16044	31.0	24	-N	2					G	
MANI	27	0752E	0755J	0756D	S20	E47	.761	16044	30.9	40	-F	2	V		40		F	
ABST	27	0753	0755	0823	S18	E46	.745	16044	30.8	30	1N		C	0755	131	2.1	EJ	
ISTA	27	0755		0815	S21	E45	.744	16044	30.7	20	-F	7					D	
889 ABST	27	0831	0833	0840	N13	E24	.466	16041	29.2	9	-N		C	0833	131	1.7	EJ	Y5
890 ABST	27	0854	0855	0909	N26	E40	.735	16041	30.4	15	-N		C	0855	131	1.9	EV	Y5
891 ABST	27	0904	0910	0924	N18	W10	.369	16031	26.6	20	-N		C	0910	131	1.4	EJ	Y5
892 KAND	27	0928	0930	0940	N18	W12	.385	16031	26.5	12	-F		C		62	.7	E	Y5
893 KHAR	27	0930E		1000D	N14	E23	.461	16041	29.1	330	-F		V	0930			L	Y5
894 KHAR	27	0940E	0945	0955D	N17	E90	1.000	16046	3.2	150	-F		P				T	Y5
895 KHAR	27	1009E		1016D	N17	W13	.380	16031	26.4	70	-F		V	1009			T	Y5
GRP74896	27	1013+2	1013+7	1028	N14	E21	.436	16041	29.0	15	-N							
ATHN	27	1013E	1013	1020	N12	E20	.405	16041	28.9	70	-N	3		1013	33	.4		
KHAR	27	1013	1017	1029	N14	E22	.448	16041	29.1	16	-N		P	1013			T	
CATA	27	1015	1020	1030	N15	E22	.457	16041	29.1	15	-B	2	C	1020	28	.3		
KANZ	27	1015	1019	1027	N14	E21	.436	16041	29.0	12	-N	2						
897 KHAR	27	1123E	1124	1135D	N18	W12	.385	16031	26.6	120	-F		P	1124			T	Y5
898 KHAR	27	1130E		1135D	N16	E90	1.000	16046	3.2	50	-F		V				T	Y5
899 KHAR	27	1153E		1200D	N16	E90	1.000	16046	3.2	70	-F		P				T	Y5

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	OBSERVATORY	OBSERVED UT DATE	OBSERVED UT START	OBSERVED UT MAX. PHASE	OBSERVED UT END	LOCATION APPROX LAT.	LOCATION APPROX MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEASUREMENTS MEAS. AREA Mill. of Disk	MEASUREMENTS CORR AREA Sq. Deg.	REMARKS	
		27	1204	1218	NO FLARE PATROL														
		27	1308	1344	NO FLARE PATROL														
		27	0119	0125	NO FLARE PATROL														
		27	0222	0524	NO FLARE PATROL														
900	BIGB	27	1453	1454	1502	N18	W14	.402	16031	26.6	9	-N	3	C	1454	30	.3		Y5
901	BIGB	27	1802	1804	1811	S21	E39	.680	16044	30.7	9	-N	3	C	1804	30	.4	E	Y5
902	BIGB	27	1848	1850	1859	S21	E29	.566	16043	30.0	11	-N	3	C	1850	30	.4		Y5
903	BIGB	27	2032	2036	2112	N27	E30	.648	16041	30.1	40	-F	3	C	2036	30	.4		Y5
GRP74934		27	2243+1	2244+1	2253	N14	E16	.375	16041	29.1	10	-N						DH	
	BIGB	27	2243	2244	2256	N14	E16	.375	16041	29.1	7	-N	3	C	2244	20	.2		
	VORO	27	2244	2245	2255	N14	E17	.387	16041	29.2	11	-N		C	2245	143	1.5	DH	
905	VORO	27	2311	2311	2314	N18	W20	.463	16031	26.5	3	-F		C	2311	90	1.0	D	Y5
906	CULG	28	0212	0221	0306	N24	W67	.937	16028	23.1	54	-N		C	0221	80			Y5
907	CULG	28	0304	0312	0317	N23	E59	.885	0	1.6	13	-F		C	0312	40	.8		Y5
908	CULG	28	0407	0410	0416	N17	E90	1.000	16046	3.9	9	-N		C	0410	20			Y5
909	CULG	28	0422	0426	0434	N30	W41	.766	16042	25.1	12	-F		C	0426	30	.5		Y5
910	CULG	28	0426	0446	0511	N23	W26	.574	16031	26.2	45	-N		C	0446	150	1.9		Y5
911	CULG	28	0458	0459	0515	S33	W06	.535	16034	27.8	17	-N		C	0459	60	.7		Y5
GRP74912		28	0740+1	0740	0750	S34	E22	.626	16040	30.0	10	-F						E	
	CATA	28	0740	0740	0755	S33	E24	.629	16040	30.1	15	-N	2	C	0740	67	.8		
	ISTA	28	0741		0744	S35	E20	.624	16040	29.8	3	-F						E	
913	ISTA	28	0825		0827	S26	E08	.438	16040	29.0	2	-F						D	Y5
914	KHAR	28	0940E	0945	0959D	N14	E90	1.000	16046	4.2	19D	-F		P	0945	40		H	Y5
915	KHAR	28	1006E	1006	1012D	N12	E90	1.000	16046	4.2	6D	-F		V	1006			H	Y5
GRP74916		28	1019	1023	1035	N16	E15	.386	16041	29.6	16	-F						L	
	KANZ	28	1019	1023	1035	N17	E15	.398	16041	29.6	16	-F	2						
	KHAR	28	1021E		1035D	N15	E16	.385	16041	29.6	14D	-F		V	1025	50	.6	L	
GRP74917		28	1035+4	1036+3 1045	1110	N20	W30	.591	16031	26.2	35	1N				220	2.8	EHK	
	KHAR	28	1035	1036	1210D	N20	W29	.580	16031	26.3	95D	1N		P	1041	360	4.7	EHK	
	MONT	28	1036	1038	1122	N21	W29	.588	16031	26.3	46	1N		C	1038	250			
	HTPR	28	1036	1038	1056	N21	W32	.620	16031	26.0	20	-N		C	1038	150	1.7	E	
	ZURI	28	1038	1038	1104	N20	W29	.580	16031	26.3	26	1B		C	1038	240	3.1		
	KANZ	28	1039	1039	1052D	N19	W31	.595	16031	26.1	13D	1N	1					F	
	CATA	28	1045	1045	1105D	N21	W31	.610	16031	26.1	20D	1N	2	P	1045	168	2.3		
GRP74918		28	1115+8	1128 1135	1151	N20	W30	.591	16031	26.2	36	-N						E	
	HTPR	28	1115		1135D	N21	W30	.599	16031	26.2	20D	-F		C	1124	40	.5	E	
	ZURI	28	1116	1128	1138	N20	W29	.580	16031	26.3	22	-N		C	1128	110	1.4		
	MONT	28	1123	1135	1204	N20	W30	.591	16031	26.2	41	-N		C	1135	180			
919	KHAR	28	1130E	1135	1148D	N14	E90	1.000	16046	4.2	18D	-F		P	1135			H	Y5
GRP74920		28	1318+2	1323+1	1336	S21	W17	.436	16032	27.3	18	-F						G	
	ZURI	28	1318	1324	1336	S21	W17	.436	16032	27.3	18	-F		C	1324	180	2.1		
	KANZ	28	1320	1323	1338	S21	W18	.446	16032	27.2	18	-F	1					F	
	KAND	28	1325E		1335	S22	W17	.448	16032	27.3	10D	-N		C		94	1.1	EG	
921	KANZ	28	1338	1342	1410D	N17	E85	.997	16046	3.9	32D	-B	2						Y5
GRP74922		28	1522+4	1527+1 1536	1541	N15	E90	1.000	16046	5.4	19	-B							
	BIGB	28	1522	1528	1539	N13	E90	1.000	16046	4.4	17	-B	3	C	1528	90			
	HOLL	28	1526	1527	1538	N16	E90	1.000	16046	4.4	12	-B	2	C					
	BIGB	28	1532	1536	1544	N16	E90	1.000	16046	4.4	12	-B	3	C	1536	30			
GRP74923		28	1552+1	1554+3	1607	S23	W63	.905	16025	23.9	15	-N							
	BIGB	28	1552	1554	1615	S23	W63	.905	16025	23.9	23	-N	3	P	1554	60	1.4		
	HOLL	28	1553	1554	1559	S23	W63	.905	16025	23.9	6	-N	3	C		20			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.		
GRP74924	28	1805>9	1817+2	1935	N12	E85	.997	16046	5.1	30	-B				35			
BIGB	28	1805	1817	1837	N11	E85	.997	16046	4.1	32	-B	3	C	1817	50			
HOLL	28	1812	1819	1835	N13	E89	1.000	16046	4.4	23	-B	3	C					
PALE	28	1816	1819	1827	N12	E77	.976	16046	3.5	11	-B	3	C		24		FDE	
925 HOLL	28	1934	1934	1941	S34	W10	.561	16034	28.1	7	-N	3	C		21			Y5
926 BIGB	28	1953	2032	2157	N12	E90	1.000	16046	4.6	124	-N	3	P	2032	60			Y5
GRP74927	28	2220+3	2238+5	2325	S32	E18	.576	16040	30.3	65	-N							
CULG	28	2220	2238	2325	S32	E18	.576	16040	30.3	65	1N		P	2238	170	2.3	F	
BIGB	28	2223	2243	2325	S33	E20	.601	16040	30.4	62	-B	3	C	2243	70	.8		
VORO	28	2255E		2321	S32	E18	.576	16040	30.3	26D	-F		C	2301	134	1.6	E	
928 CULG	28	2242	2249	2256	S21	W67	.928	16025	23.9	14	-N		C	2249	60			Y5
GRP74929	28	2248+1	2251+1	2310	N26	W06	.486	16036	28.5	22	-N				100	1.1	EG	
CULG	28	2248	2250	2316	N26	W05	.463	16036	28.6	28	-N		C	2250	100	1.2		
BIGB	28	2249	2251	2310	N25	W06	.451	16036	28.5	21	-B	3	C	2251	100	1.0		
VORO	28	2255E		2310	N26	W08	.473	16036	28.4	15D	1F		P	2259	179	2.0	EG	
GRP74930	28	2341+3	2354+2	0002D	N13	E82	.991	16046	5.1	21	1N				120		HIJK	
CULG	28	2341	2356	0150	N13	E85	.997	16046	4.4	129	2N		C	2356	120		KFIT	
VORO	28	2343	2354	0002	N13	E82	.991	16046	4.1	19	1F		C	2354	81		DHJK	
BIGB	28	2344	2354	2354D	N15	E80	.987	16046	4.0	10D	-B	3	P	2354	150			
GRP74931	29	0035+0	0037+0	0048	N18	E76	.975	16046	4.7	13	1F				100		D	
VORO	29	0035	0037	0047	N19	E77	.978	16046	3.8	12	1F		C	0037	108		D	
BIGB	29	0035	0037	0048	N18	E75	.971	16046	3.6	13	-N	3	P	0037	100			
GRP74932	29	0041+3	0044+4	0050	S33	E16	.578	16040	30.2	9	-F						D	
CULG	29	0041	0048	0055	S32	E16	.565	16040	30.2	14	-N		C	0048	40	.5		
BIGB	29	0043	0044	0050	S33	E16	.578	16040	30.2	7	-F	3	C	0044	20	.2		
VORO	29	0044	0044	0049	S33	E17	.584	16040	30.3	5	-F		C	0044	72	.9	D	
933 CULG	29	0244	0247	0259	N29	W60	.904	16042	24.6	15	-F		C	0247	40	.9	S	Y5
934 CULG	29	0245	0248	0311	S23	W21	.499	16032	27.5	26	-N		C	0248	70	.8	F	Y5
935 CULG	29	0349	0407	0417	N14	E80	.986	16046	4.2	28	-N		C	0407	60		TK	Y5
936 CULG	29	0532	0536	0546	S23	W24	.530	16032	27.4	14	-N		C	0536	70	.8		Y5
937 ISTA	29	0620E		0635	N14	W02	.262	16041	29.1	15D	-N	4					B	Y5
GRP74938	29	0633+2		0654D	N24	W04	.428	16036	2.9	21D	-N						E	
938 HTPR	29	0633		0654D	N26	W05	.461	16036	28.9	21D	-F		C	0634	60	.7	E	Y5
938 ISTA	29	0635		0635D	N23	W03	.410	16036	29.0		-B						E	Y5
939 ISTA	29	0638		0638D	N16	E80	.987	16046	4.3		-B						A	Y5
940 HTPR	29	0714E		0737D	N15	E76	.973	16046	4.0	23D	?N		C	0725	120		E	Y5
	IMP.1 NO ! CATA																	
941 WEND	29	0743E		0823D	N14	E74	.965	16046	3.9	40D	?N		C		400		E	Y5
	IMP.1 ?0 ! CATA																	
942 KHAR	29	0903E		0920D	N17	W38	.664	16031	26.5	17D	-F		V	0903			D	Y5
GRP74943	29	0931+4	0935+2	0944	N14	E79	.984	16046	5.3	13	-N				45			
MONT	29	0931	0937	0944	N14	E86	.998	16046	4.8	13	-N		C	0937	60		E	
CATA	29	0935	0935	0940	N13	E79	.983	16046	4.3	5	-N	2	C	0935	28			
KHAR	29	0938E		1010	N14	E78	.980	16046	4.3	32D	-F		V	0940			D	
944 KHAR	29	1005E	1013	1040D	N17	W38	.664	16031	26.6	35D	-F		V	1013				Y5
GRP74945	29	1039+6	1046+4	1054	N14	E74	.965	16046	5.0	15	1N						EHQ	
KANZ	29	1039	1047	1058	N14	E73	.960	16046	3.9	19	1B	3						
MONT	29	1040	1046	1051	N14	E85	.997	16046	4.8	11	1N		C	1046	220			
KHAR	29	1042	1048	1058	N14	E75	.969	16046	4.1	16	1B		P	1050	180		HQ	
ZURI	29	1042	1046	1052	N14	E75	.969	16046	4.1	10	1B		C	1046	160			
CATA	29	1045	1050	1055	N14	E71	.950	16046	3.8	10	-B	2	C	1050	56			
HTPR	29	1049E		1052	N15	E74	.965	16046	4.0	3D	-F		C	1050	50		E	
946 KAND	29	1106E		1141	S24	W27	.571	16032	27.4	35D	-F		C		42	.5	E	Y5
947 KAND	29	1106E		1150	N17	W40	.687	16031	26.5	44D	-F	*	C		31	.4	D	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP74948	29	1219+1	1220+7	1241	S24	W26	.560	16032	27.6	22	-N				170	2.0		
KANZ	29	1219	1223	1239	S26	W27	.588	16032	27.5	20	-F	1						
LVOV	29	1219	1221	1241	S25	W26	.569	16032	27.6	22	1F		C	1221	200	2.5	D	
WEND	29	1219E	1227	1253D	S18	W37	.644	16032	26.7	34D	1N		C		300	4.1	E	
ZURI	29	1220	1220	1232D	S24	W25	.550	16032	27.6	12D	-N		P	1220	140	1.8		
949 KANZ	29	1231	1235	1246	N14	E74	.965	16046	4.1	15	-N	2					D	Y5
GRP74950	29	1441+2	1445+0	1501	N13	E69	.939	16046	4.8	20	-N						D	
KANZ	29	1441	1445	1500	N14	E69	.939	16046	3.8	19	-F	2					D	
BIGB	29	1443	1445	1501	N13	E70	.944	16046	3.9	18	-B	3	C	1445	20			
951 BIGB	29	1711	1715	1729	N16	W11	.346	16041	28.9	18	-F	3	C	1715	20	.2		Y5
GRP74952	29	1732+1	1737+0 1752	1802	N13	E69	.939	16046	4.9	30	-B				45		F	
BIGB	29	1732	1737	1741	N13	E70	.944	16046	4.0	9	-B	3	C	1737	50			
PALE	29	1733	1737	1759	N14	E68	.933	16046	3.8	26	-B	3	C		35		F	
BIGB	29	1745	1752	1804	N13	E70	.944	16046	4.0	19	-B	3	C	1752	70			
953 BIGB	29	1959	2000	2012	N13	E70	.944	16046	4.1	13	-B	3	C	2000	20			Y5
GRP74954	29	2111+0	2127+2	2135	N12	E66	.919	16046	4.8	24	1B				110		HJ	
BIGB	29	2111	2127	2136	N13	E67	.926	16046	3.9	25	-B	3	C	2127	120			
HOLL	29	2111	2128	2134	N12	E66	.919	16046	3.8	23	-B	3	C		107		FDE	
PALE	29	2118E	2129J	2136	N14	E66	.921	16046	3.8	18D	-B	3	C		101		F	
VORO	29	2125	2128	2133	N12	E68	.932	16046	4.0	8	1N		C	2128	116		DHJ	
GRP74955	29	2144	2146+6 2159+5	2227	N14	E67	.927	16046	4.9	43	-N				35		HJ	
VORO	29	2144	2146	2153	N16	E64	.909	16046	3.7	9	-N		C	2146	63		H	
CULG	29	2151E	2152	2239D	N14	E67	.927	16046	3.9	48D	1N		P	2152	130	3.4		
VORO	29	2157	2159	2204	N16	E70	.946	16046	4.2	7	-N		C	2159	27		DHJ	
VORO	29	2201	2204	2214	N13	E68	.933	16046	4.0	13	-F		C	2204	36		DH	
956 VORO	29	2235	2237	2245	N13	E68	.933	16046	4.0	10	-F		C	2237	45		DHJ	Y5
957 BIGB	30	0024	0029	0037	N24	E74	.969	16046	4.6	13	-F	3	C	0029	20			Y5
958 CULG	30	0101E	0106	0108D	N08	E07	.197	16041	30.6	7D	-N		P	0106	70	.7		Y5
959 BIGB	30	0107	0108	0110	S35	E09	.575	16040	30.7	3	-F	3	C	0108	20	.2	G	Y5
960 CULG	30	0153	0157	0220	N12	E64	.905	16046	3.9	27	-F		C	0157	40	.8		Y5
961 CULG	30	0309	0314	0333	S28	W85	.996	0	23.8	24	-F		C	0314	30			Y5
	30	0401	0407	NO FLARE PATROL														
962 CULG	30	0407	0423	0440	N13	E90	1.000	16051	5.9	33	-N		C	0423	20			Y5
	30	0415	0422	NO FLARE PATROL														
963 CULG	30	0441	0445	0455	N18	W47	.765	16031	26.7	14	-N		C	0445	40	.7		Y5
GRP74964	30	0526+2	0527 0535	0557	N19	E90	1.000	16051	7.0	31	-N						ADV	
ABST	30	0526	0527	0559	N20	E90	1.000	16051	6.0	33	1F		C	0527	87		ADV	
CULG	30	0528	0535	0555	N19	E90	1.000	16051	6.0	27	-N		C	0535	30		T	
965 ABST	30	0550E	0559	0608D	N18	E67	.930	16046	4.3	18D	?F		P	0559	87		EJ	Y5
	IMP.1 NO : TACH			CULG	KIEV													
966 ABST	30	0618	0619	0631	N20	E90	1.000	16051	6.0	13	?F		C	0619	87		ADV	Y5
	IMP.1 NO : KIEV			WEND	CATA													
967 ABST	30	0637	0638	0701D	N19	E68	.937	16046	4.4	24D	?F		P	0638	87		DV	Y5
	IMP.1 NO : KIEV			WEND	CATA													
968 ABST	30	0642	0700	0715D	N13	E90	1.000	16051	6.0	33D	?N		P	0700	87		ADJ	Y5
	IMP.1 NO : CATA																	
969 ABST	30	0801E	0806	0840	N23	W03	.408	16041	30.1	39D	-F		P	0840	87	1.0	D	Y5
970 KHAR	30	0901E		0907D	N19	E90	1.000	16051	6.1	6D	-F		P				HT	Y5
971 KHAR	30	0913E		1018D	N14	E65	.914	16046	4.3	65D	?F		P	0947	220		EHO	Y5
	IMP.1 NO : WEND			MONT	ZURI	CATA												

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
972 KHAR	30	0927E	0935	0940D	N26	E98	1.000	16051	6.1	130	-N		P	0935			EHT	Y5
973 KHAR	30	0952E	0954	1000D	N20	E90	1.000	16051	6.2	80	-B		P	0953			DT	Y5
974 KHAR	30	1107E		1115D	N21	E90	1.000	16051	6.2	80	-F		P	1113			DT	Y5
975 KANZ	30	1339	1346	1409	N17	E59	.873	16046	4.0	30	-F	2					D	Y5
GRP74976	30	1457+2	1458+5	1508	N19	E90	1.000	16051	7.4	11	-N							
BIGB	30	1457	1458	1505	N19	E90	1.000	16051	6.4	8	-N	3	C	1458	30			
KANZ	30	1459	1503	1511	N19	E90	1.000	16051	6.4	12	-N	3						
977 KANZ	30	1526	1529	1533	N13	E57	.850	16046	3.9	7	-F	3						Y5
978 BIGB	30	1617	1618	1624	N19	E90	1.000	16051	6.4	7	-N	3	C	1618	30			Y5
979 BIGB	30	1710	1714	1735	N19	E90	1.000	16051	6.5	25	-N	3	C	1714	20			Y5
980 CULG	30	2235	2238	2246	N14	E90	1.000	16051	6.7	11	-F		C	2238	30			Y5
981 CULG	30	2303	2306	2310D	S09	W17	.321	16045	29.7	70	-F		C	2306	30	.3		Y5
GRP74982	30	2312	2313 2321	2326	N18	E89	1.000	16051	7.6	14	-N							
BIGB	30	2312	2313	2319	N19	E90	1.000	16051	6.7	7	-N	3	C	2313	20			
CULG	30	2319E	2321	2333	N17	E88	1.000	16051	6.6	140	-N		P	2321	40			
983 CULG	31	0024	0027	0038	S20	E80	.986	16052	6.0	14	-F		C	0027	40			Y5
984 CULG	31	0224	0228	0240	N21	W36	.661	16036	28.4	16	-F		C	0228	60	.8		Y5
985 CULG	31	0233	0235	0246	S26	E88	.999	16052	6.7	7	-N		C	0235	26			Y5
986 CULG	31	0234	0241	0246	N13	E49	.772	16046	3.8	12	-N		C	0241	40	.5	T	Y5
987 CULG	31	0324	0329	0345	N19	E85	.997	16051	6.5	21	-N		C	0329	30		T	Y5
988 ABST	31	0510E	0512	0517D	N18	E80	.987	16051	6.2	70	?F		P	0512	87		DJ	Y5
	IMP.1	NO I	CULG	TACH	WEND	HITK												
989 CULG	31	0535	0539	0605	S21	W06	.359	16044	30.8	30	-N		C	0539	40	.4		Y5
990 HTPR	31	0800	0805	0807	N13	E47	.750	16046	3.9	7	-F		C	0805	20	.3	E	Y5
991 KHAR	31	1000E	1012	1032D	S22	E85	.996	16052	6.8	320	?F		P	1012			H	Y5
	IMP.1	NO I	HTPR	CATA	ZURI	WEND	MONT											
GRP74992	31	1000+9	1026	1030	N20	E82	.992	16051	7.6	30	-F						E	
KHAR	31	1000E		1030D	N20	E78	.982	16051	6.3	300	1F	*	P	1008				
HTPR	31	1025	1026	1032	N20	E86	.998	16051	6.9	5	-F	*	C	1026	10		E	
993 KHAR	31	1019E	1048	1105D	N17	E50	.792	16046	4.2	460	?F		P	1053	150	2.5	EHO	Y5
	IMP.1	NO I	HTPR	ZURI	WEND	MONT	CATA											
994 KHAR	31	1050E	1052	1055D	N20	W14	.421	16041	30.4	50	-F	*	P	1053	55	.6	D	Y5
995 KHAR	31	1050E		1055D	N17	W70	.946	16031	26.2	50	-F		P	1053	75		D	Y5
GRP74996	31	1144E	1147	1157D	N19	E79	.984	16051	7.4	13	-F							
KHAR	31	1144E		1157D	N17	E80	.987	16051	6.5	130	-F		P	1145			D	
KHAR	31	1146E	1147	1153D	N21	E78	.982	16051	6.3	40	-F		P	1147			D	
GRP74997	31	1148	1152	1156	N26	W33	.664	16036	29.0	8	-F				100	1.4	DH	
ZURI	31	1148	1152	1154	N26	W33	.664	16036	29.0	6	-F		C	1152	120	1.7		
KHAR	31	1150E		1157D	N26	W34	.674	16036	28.9	70	-F		P	1153	75	1.1	DH	
998 KHAR	31	1150		1158D	N19	W59	.876	16031	27.1	80	-F		P	1153	55	1.2	DH	Y5
GRP74999	31	1308+2	1323+5	1345	N24	W17	.497	16041	30.3	37	-N				70	.8	E	
MCMA	31	1308	1328	1345	N24	W17	.497	16041	30.3	37	-N		C	1328	75	.9	E	
HTPR	31	1310	1325	1340	N25	W18	.517	16041	30.2	30	-F		C	1325	60	.7	E	
KANZ	31	1312E	1323	1350	N22	W17	.473	16041	30.3	380	-N	3					F	
0 LVOV	31	1313	1316	1346	S23	W11	.417	16044	30.7	33	?F		C	1316	200	2.3	E	Y5
	IMP.1	NO I	HTPR	WEND	MCMA	KANZ												

Hα SOLAR FLARES

MAY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LONG. DIST.	CENTRAL DISTANCE	MOUNTH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Min. of Disk	CORR. AREA Sq. Deg.		
1 PALE	31	1858E	1858J	1934D	N19	E78	.981	16051	6.6	360	-S	1	C		30		DE	YS
GRP75002	31	2230	2235 2248	2253	N17	E82	.992	16051	9.1	23	-F							
CULG	31	2230	2235	2254	N15	E05	.997	16051	7.3	20	-F		C	2235	30			
CULG	31	2244	2248	2253	N19	E79	.984	16051	6.9	9	-F		C	2248	10			
3 CULG	31	2326	2334	2359	N13	E49	.772	16046	4.7	33	-F		C	2334	100	1.5	L	Y5

MAY 1979

DAILY FLARE INDICES
Includes all Flares

Date	Flare Index	HR. OBS	Date	Flare Index	HR. OBS	Date	Flare Index	HR. OBS
790501	281.70	21.2	790511	139.49	24.3	790521	95.26	24.0
790502	238.29	23.9	790512	114.33	24.0	790522	144.48	24.3
790503	217.97	24.0	790513	77.56	21.3	790523	138.26	24.0
790504	67.58	24.0	790514	141.25	24.0	790524	97.88	24.0
790505	16.52	23.9	790515	135.77	24.0	790525	84.71	23.7
790506	56.78	24.0	790516	85.63	24.3	790526	93.47	23.6
790507	24.29	23.6	790517	72.61	24.0	790527	58.11	19.1
790508	55.71	24.0	790518	77.60	24.3	790528	86.36	24.0
790509	112.87	24.0	790519	26.50	23.3	790529	74.03	24.0
790510	94.84	23.9	790520	53.75	24.0	790530	34.62	23.8
						790531	33.62	24.3

When no Flare Index is given, it is 0 for that day.

Purple Mt. and Yunnan Hα Solar Flares for May 1979
(Not included in group reports because of data processing delays)

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LONG. DIST.	CENTRAL DISTANCE	MONATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Min. of Disk	CORR. AREA Sq. Deg.	
YUNN	01	0357	0401	0415	N15	E28	.463	15974	2.7	18	1N		C		427		
PURP	02	0533E	0533	0600	S26	E69	.436	15982	7.4	270	1N						
PURP	02	0719	0719	0749	N18	W50	.809	15967	28.6	30	1F						
PURP	07	0406	0412	0440	N12	E52	.809		11.1	34	SN						
PURP	08	0851	0851	0100	N24	E21	.563	15990	9.6	9	1B						
PURP	09	0727	0730	0745	N16	W22	.487	15989	7.7	18	1F						
YUNN	09	0831	0835	0915	N21	E19	.476	15990	10.5	44	1N		C		276		
PURP	09	0833	0834	0834D	N20	E14	.456	15990	10.4	10	1F						
YUNN	11	0039	0055	0340	N21	W07	.424	15990	10.5	181	1N		C		236		
PURP	17	0857	0858	0920	S23	W74	.963	15996	11.8	23	1N						
PURP	18	0823E		0849	S23	W83	.992	15996	11.8	260	1F						
PURP	18	0512		0523	S23	W85	.995	15996	11.8	11	1F						
PURP	19	0540E	0540	0627	S17	W57	.847	16005	13.0	470	1N						
PURP	19	0743E		0840	N23	W84	.431	16012	19.0	570	1N						
PURP	21	0817E		0824	N12	W67	.927	16014	16.0	70	1F						
PURP	21	0817E	0819	0850	S26	E40	.711	16025	24.0	330	2N				377	5.5	
YUNN	21	0443	0500	0518	N20	W50	.806	16018	17.4	27	1F		C		228		
YUNN	21	0847	0849	0900	S22	E34	.624	16025	23.9	13	1B		C		161		
PURP	24	0721E	0722	0742	N25	W26	.597	16024	22.4	210	1B						
YUNN	24	1814	1820	1835	S23	W85	.373	16025	24.1	21	1N		C		236		
PURP	25	0737	0742	0753	N24	W29	.616	16029	23.1	16	1B						
YUNN	27	0747	0758	0818	S28	E48	.771	16044	30.5	23	1N		C		126		

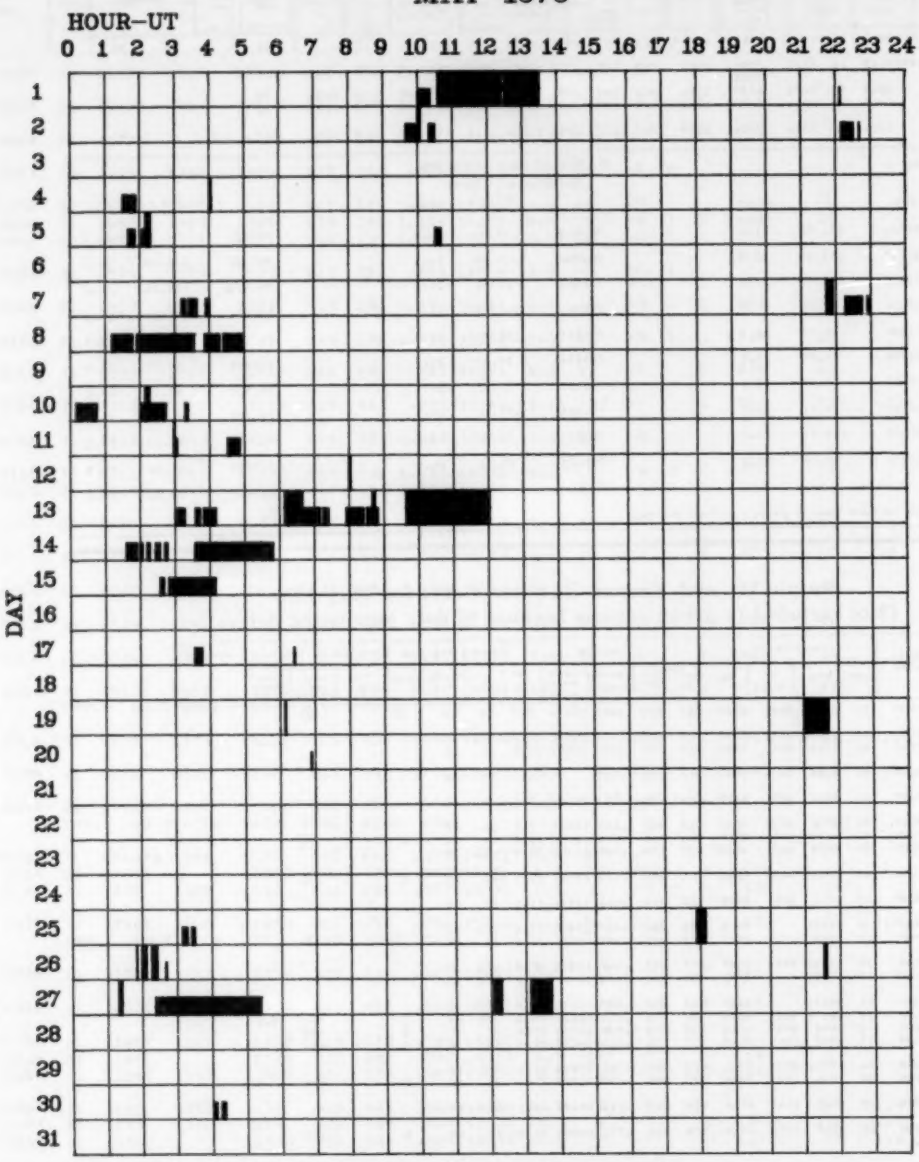
"REMARKS":

A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization
O = Observations have been made in the H and K lines of CaII.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

MAY 1979



The total patrol included the following observatories:

Abastumani	Culgoora	Kanzelhöhe	Manila	Tashkent
Athens	Haute-Provence	Kharkov	McMath-Hulbert	Tel Aviv
Berne	Holloman	Kiev	Mitaka	Voroshilov
Big Bear	Huancayo	Kodaikanal	Monte Mario	Wendelstein
Bucharest	Istanbul	Locarno	Palehua	Zürich
Catania	Kandilli	Lvov	Ramey	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOME OTHER SOURCES OF DATA

Data Available: Some data available in publication form are cited here. A list is given, along with addresses of the responsible institutions. The WDC-A for Solar-Terrestrial Physics publishes the Toyokawa, Ottawa and Penticton radio data in its monthly publication, *Solar-Geophysical Data*. The WDC-A for Solar-Terrestrial Physics also receives most of the periodicals when they become available.

Belgium: *Bulletin d'Observations: Activite Solaire - Observations Radioelectriques Solaires - 600 Mhz (Humain, Belgium)* Observatoire Royal de Belgique, Ave. Circulaire 3, Brussels, Belgium (monthly since 1962)

Canada: *Solar Noise Observations at 2800 Mc/s (Ottawa - ARO) and 2700 Mc/s (Pentiston - DRAO)* Series C Monthly Report, National Research Council, Radio Astronomy Section Ottawa 7, Ontario, Canada (since 1947)

France: *Carte Synoptiques de la Chromosphere Solaire* Observatoire de Paris, 92 Meudon, France (monthly since 1931)

Germany: *Daily Mean Value of Solar Flux Density* Heinrich-Hertz Institut, 1199 Berlin-Adlershof, Rudower Chaussee 5, G.D.D. (monthly since Jul 1957)

Italy: *Solar Phenomena - Monthly Bulletin and Photographic Supplement* Osservatorio Astronomica di Roma, Monte Mario, Rome, Italy (monthly since 1958) *Osservazion Solari, Solar Flux and Distinctive Events* Osservatorio Astronomico Di Trieste (quarterly since 1965) *Solar Observations made at Catania Astrophysical Observatory* (annually since 1967)

Japan: *Monthly Report of Solar Radio Emission* Radio Astronomy Section, Research Institute of Atmospherics, Nagoya University, Toyokawa, Japan (since 1956) *Solar Activity Chart* WDC-C2, Toyokawa Observatory, Nagoya University, Toyokawa, Japan (annually since 1968) *IAU Quarterly Bulletin on Solar Activity* Tokyo Astronomical Observatory, Mitaka, Tokyo, Japan (since 1978)

Netherlands: *Geomagnetic Data* IAGA Bulletin No. 12 (1932-69), No. 32 (since 1970) IUGG Publications Office, 39 ter, Rue Gay-Lussac, Paris V, France (annually)

Taiwan: *Report on Sunspot Observations* Taiwan Provincial Weather Bureau Observatory, Taipei, Taiwan (quarterly since 1957)

USSR: СОЛНЕЧНЫЕ ДАННЫЕ *(Solar Data)* USSR Academy of Science (monthly since 1958) КОСМИЧЕСКИЕ ДАННЫЕ *(Cosmic Data)* (monthly since 1962) *Magnetic Fields of Sunspots* (bimonthly since 1964)

USA: *Preliminary Report and Forecast of Solar-Geophysical Activity* Space Environment Services Center, NOAA, Boulder, Colorado 80303 USA (weekly) *Solar-Geophysical Data* NOAA, Boulder, Colorado 80303 USA (monthly since November 1956)

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UAG-2 "A Reevaluation of Solar Flares, 1964-1966," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, August 1968, 28 pp, $0.30.

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UAG-4 "Abbreviated Calendar Record 1966-1967," by J. Virginia Lincoln, Hope I. Leighton and Dorothy K. Kropp, ESSA now NOAA, Aeronomy and Space Data Center, Boulder, CO, January 1969, 170 pp, $1.25.

UAG-5 "Data on Solar Event of May 23, 1967 and its Geophysical Effects," compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, February 1969, 120 pp, $0.65.

UAG-6 "International Geophysical Calendars 1957-1969," by A.H. Shapley and J. Virginia Lincoln, ESSA Research Laboratories, now NOAA, Boulder, CO, March 1969, 25 pp, $0.30.

UAG-7 "Observations of the Solar Electron Corona: February 1964 - January 1968," by Richard T. Hansen, High Altitude Observatory, NCAR, Boulder, CO, and Kamuela, HI, October 1969, 12 pp, $0.15.

UAG-8 "Data on Solar-Geophysical Activity October 24 - November 6, 1968," Parts 1 and 2, compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, March 1970, 312 pp, $1.75 (includes Parts 1 and 2).

UAG-9 "Data on Cosmic Ray Event of November 18, 1968 and Associated Phenomena," compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, April 1970, 109 pp, $0.55.

UAG-10 "Atlas of Ionograms," edited by A.H. Shapley, ESSA Research Laboratories now NOAA, Boulder, CO, May 1970, 243 pp, $1.50.

UAG-12 "Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970," Parts 1, 2 and 3, compiled by J. Virginia Lincoln and Dale B. Bucknam, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, April 1971, 466 pp, $3.00 (includes Parts 1-3).

UAG-13 "Data on the Solar Proton Event of November 2, 1969 through the Geomagnetic Storm of November 8-10, 1969," compiled by Dale B. Bucknam and J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, May 1971, 76 pp, $0.90.

UAG-14 "An Experimental, Comprehensive Flare Index and Its Derivation for 'Major" Flares, 1955-1969," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, July 1971, 25 pp, $0.30.

UAG-16 "Temporal Development of the Geophysical Distribution of Auroral Absorption for 30 Substorm Events in each of IQSY (1964-65) and IASY (1960)," by F.T. Berkey, University of Alaska, Fairbanks, AK; V.M. Driatskiy, Arctic and Antarctic Research Institute, Leningrad, USSR; K. Henriksen, Auroral Observatory, Tromsoe, Norway; D.H. Jelly, Communications Research Center, Ottawa, Canada; T.I. Shchuka, Arctic and Antarctic Research Institute, Leningrad, USSR; A. Theander, Kiruna Geophysical Observatory, Kiruna, Sweden; and J. Yliniemi, University of Oulu, Oulu, Finland, September 1971, 131 pp, $0.70 (microfiche only).

UAG-17 "Ionospheric Drift Velocity Measurements at Jicamarca, Peru (July 1967 - March 1970)," by Ben B. Balsley, NOAA Aeronomy Laboratory, Boulder, CO, and Ronald F. Woodman, Jicamarca Radar Observatory, Instituto Geofisico del Peru, Lima, Peru, October 1971, 45 pp, $0.55 (microfiche only).

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UAG-22 "Auroral Electrojet Magnetic Activity Indices (AE) for 1970," by Joe Haskell Allen, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, November 1972, 146 pp, $0.75.

UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction," Second Edition, November 1972, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 324 pp, $1.75.

UAG-23A "U.R.S.I. Handbook of Ionogram Interpretation and Reduction," Second Edition, Revision of Chapters 1-4, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 135 pp, $2.14.

UAG-24 "Data on Solar-Geophysical Activity Associated with the Major Ground Level Cosmic Ray Events of 24 January and 1 September 1971," Parts 1 and 2, compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, December 1972, 462 pp, $2.00 (includes Parts 1 and 2).

UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971," by James W. Warwick, George A. Dulk and David G. Suann, University of Colorado, Boulder, CO, February 1973, 35 pp, $0.35.

UAG-26 "Data Compilation for the Magnetospherically Quiet Periods February 19-23 and November 29 - December 3, 1970," compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, May 1973, 129 pp, $0.70.

UAG-27 "High Speed Streams in the Solar Wind," by D.S. Intriligator, University of Southern California, Los Angeles, CA, June 1973, 16 pp, $0.15.

UAG-28 "Collected Data Reports on August 1972 Solar-Terrestrial Events," Parts 1, 2 and 3, edited by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, July 1973, 932 pp, $4.50.

UAG-29 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1968," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, October 1973, 148 pp, $0.75.

UAG-30 "Catalogue of Data on Solar-Terrestrial Physics," prepared by NOAA Environmental Data Service, Boulder, CO, October 1973, $1.50. Supersedes UAG-11, 15, and 20 catalogs.

UAG-31 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1969," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1974, 142 pp, $0.75.

UAG-32 "Synoptic Radio Maps of the Sun at 3.3 mm for the Years 1967-1969," by Earle B. Mayfield, Kennon P. White III, and Fred I. Shimabukuro, Aerospace Corp., El Segundo, CA, April 1974, 26 pp, $0.35.

UAG-33 "Auroral Electrojet Magnetic Activity Indices AE(10) for 1967," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, May 1974, 142 pp, $0.75.

UAG-34 "Absorption Data for the IGY/IGC and IQSY," compiled and edited by A.H. Shapley, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; W.R. Piggott, Appleton Laboratory, Slough, UK; and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, June 1974, 381 pp, $2.00.

UAG-35 "Catalogue of Digital Geomagnetic Variation Data at World Data Center A for Solar-Terrestrial Physics," prepared by NOAA Environmental Data Service, Boulder, CO, July 1974, 20 pp, $0.20.

UAG-36 "An Atlas of Extreme Ultraviolet Flashes of Solar Flares Observed via Sudden Frequency Deviations During the ATM-SKYLAB Missions," by R.F. Donnelly and E.L. Berger, NOAA Space Environment Laboratory; Lt. J.D. Busman, NOAA Commissioned Corps; B. Henson, NASA Marshall Space Flight Center; T.B. Jones, University of Leicester, UK; G.M. Lerfald, NOAA Wave Propagation Laboratory; K. Najita, University of Hawaii; W.M. Retallack, NOAA Space Environment Laboratory and W.J. Wagner, Sacramento Peak Observatory, October 1974, 95 pp, $0.55.

UAG-37 "Auroral Electrojet Magnetic Activity Indices AE(10) for 1966," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, December 1974, 142 pp, $0.75.

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